Rationales for Plant Species Considered for Species of Conservation Concern

Sequoia National Forest

Prepared by:
Botanists and Natural Resources Specialists
Pacific Southwest Regional Office and Sequoia National Forest

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Introduction

In coordination with the Forest Supervisor of the Sequoia National Forest, and as part of the process for revising the forest plans (pursuant to responsibilities and authority under the 2012 Planning Rule (36 CFR 219.7(c)(3)), the Regional Forester has compiled a revised list of "Species of Conservation Concern." Changes from the Regional Forester's 2016 list of species of conservation concern for the Sequoia National Forest is in response to public comments we received on the draft environmental impact statement (EIS) and forest plan, and a forest plan area review of documented occurrences to meet the criteria that a species in known to occur in the plan area. The public asked for a more careful look at individual species and provided species-specific information for us to review. They also pointed out species that should have been considered that were not. Work was needed to provide adequate rationale for why each species meets, or does not meet, criteria as a species of conservation concern.

The definition of SCC is found at 36 CFR 219.9(c), and criteria for identifying them are outlined in the Forest Service Handbook FSH 1909.12 Chapter 10, Section 12.52c. A species of conservation concern is a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area (36 CFR 219.9).

Species of Conservation Concern Compared to Forest Service Sensitive Species

Under the current forest plans, rare plants are provided for according to the direction for Region 5 sensitive species. During the evaluation of species of conservation concern, approximately 107 botanical species were considered, including consideration of all species on the Region 5 Regional Forester's sensitive species list for the Sequoia National Forest. The Regional Forester's sensitive species list of plant sensitive species on the Sequoia National Forest are based on the September 9, 2013 versions of the USDA Forest Service Pacific Southwest Region Sensitive Animal and Plant Species by Forest (United States Department of Agriculture 2013). Of the 75 sensitive plant species on the Regional Foresters sensitive species list for the Sequoia National Forest, 38 are carried forward as species of conservation concern for the forest plan revision area. In addition, 10 species not previously categorized as Region 5 sensitive species did meet the criteria as species of conservation concern.

The species of conservation concern lists are specific to each national forest. Each species of conservation concern must occur in the forest plan area. For that reason, some sensitive species may be identified as species of conservation concern on one forest, but not another. If sensitive species are not carried forward as species of conservation concern, it is for one or more of the following reasons, as documented in the project record, including this document:

1. It is a candidate species for listing under US Fish and Wildlife Endangered Species Act (e.g., white bark pine, *Pinus albicaulis*)

2. The species does not occur on the national forest plan area (e.g. species that have occurrences in the Giant Sequoia National Monument but not in the Sequoia National Forest plan area).
3. Previous occurrence records were determined to be incorrect identifications of the species and/or could not be re-located.
4. NatureServe, California Natural Diversity Database, CA Native Plant Society Rare plant inventory, or other local data sources indicated the threats to the species were not substantial.
5. Recent surveys indicated the species is more common than originally thought.
6. There was no information about threats to the species. This was a relatively uncommon circumstance, because information about threats could be inferred from threats to the ecosystems upon which the species depend. Lack of information generally only limited species inclusion on the list if the species had not been observed for decades or more, leading to uncertainty about the condition of its specific habitat.

Procedure for Evaluation of Botanical Species of Conservation Concern

Plant species are evaluated by following a process outlined in a national directive (FSH 1909.12 § 12.52c-d). Species are considered using databases, scientific studies, local information and expert knowledge. Initially, we included all known or potential rare plants within or near the administrative boundaries of the forest, providing a comprehensive list for evaluation of other criteria. The list was based on a compilation of all California Natural Diversity Database polygons from the February 2016 dataset that intersect the Forest boundaries. Some of the species included from this step were based upon over-estimated delineations of map areas, particularly from the California Natural Diversity Database dataset. Herbarium records and Forest rare plant data files were then used to identify which species have positive documentation within Forest administrative boundaries. Only species with reliable documentation for presence within the plan area, such as specimen vouchers, were carried forward for further consideration. More recent California Natural Diversity Database datasets, and other datasets, were reviewed for the updated rationales in this document as referenced.

In addition to research conducted by Forest Service specialists, the national directive requires use of threat status rankings, determined in large part through NatureServe, a non-profit organization that provides proprietary wildlife and plant conservation-related data, tools, and services. The conservation status rank of a species is represented by a letter and a number. The letter represents one of two distinct geographic scales: global (G) and state (S). The status rank number is on a scale of one to five, where a ranking of one indicates a species at the highest level of risk and a ranking of five indicates the lowest level of risk. The status rank number is preceded by the letter reflecting the appropriate geographic scale of the assessment. For example, a status rank of G5 represents a species that has an extensive range of distribution and has a low risk of extinction. Infraspecific taxa refer to subspecies, varieties, and other designations below the level of species. The status rank of infraspecific taxa (subspecies or varieties) is indicated by a supplementary T-rank, following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above. For example, the rank of a critically imperiled subspecies of an otherwise widespread and common species would be G5T1.

We also consider species listed as threatened or endangered by relevant governments (e.g. states or federally recognized Tribes) or identified as a high priority for conservation; consider species petitioned for Federal ESA listing and for which a positive "90-day finding" has been made; and consider other species as outlined in national directive FSH 1909.12 § 12.52c-d.

Evaluating Botanical Species

For plants, we include plant ranks of California Native Plant Society's California Rare Plant Rank program. This program operates under a Memorandum of Understanding with the California Department of Fish and Game (DFG). The program ranks both the rarity and threat of a species. Rarity is ranked in two manners. First, '1', '2', '3' or '4' are qualifiers of the geographic extent of rarity: 1 = rare in California and elsewhere; 2 = rare in California, but common elsewhere; 3 = more information is needed and typically taxonomically problematic; and 4 = plants of limited distribution and status should be monitored regularly. Second, 'A' and 'B' are qualifiers of extirpation and/or rarity: A = Presumed extirpated or extinct; and B = Rare, threatened, or endangered. Threat are ranked as: 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); 0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat); 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known). For example, a California Rare Plant Rank of 1B.3 represents plants with a California Rare Plant Rank of 1B that are "rare throughout their range", and a threat rank of 0.3 that are "not very threatened in California" (i.e., less than 20% of occurrences threatened with low degree and immediacy of threat or no current threats known).

All species with a California Native Plant Society (CNPS 2015) 1B rare plant rank (rare, threatened, or endangered in California and elsewhere), or with a California Native Plants Society threat rank 0.1 (seriously threatened) were carried forward. Since species with these ranks were categorized by botanical experts, using all available field observations and scientific literature on these species, this information was considered to be evidence for concern for these species persistence, and was thus the reasoning for carrying them forward for further consideration.

Some species that did not meet the above criteria for having substantial concern for persistence within the planning area were still brought forward based on other best available scientific information available those species. These species were brought forward due to the following:

1. specific threats documented by other sources in the list above
2. a determination that the identified threat affects the species within the planning area
3. a determination that the threat constitutes a substantial concern for species persistence within the planning area

The existence of one or more of the threats did not necessarily constitute a substantial concern for species persistence. Rather, the context in which each species occurs was considered to determine if damage to individuals or to reproduction caused by the threat constitutes a substantial concern for the loss of viability for one or more populations. This determination, or viability evaluation, was a judgement, and not based on a specific threshold, like X percent of the population would be damaged by the threat.

The number of populations of each species within the planning area and extent of habitat (broad ecosystems or ecosystem types as defined in the forest plan) were important information that contributed to the judgement of whether a substantial concern existed for the persistence of a given taxon. Similar to the determinations for threats, no set number was used as a threshold, but rather the context in which each species occurs was considered. Fundamental principles of conservation biology related to minimum population sizes to maintain viable populations and on causes of rarity were considered in these determinations (e.g. Rabinowitz 1981; Shaffer 1981; Fiedler and Ahouse 1992, Wiens and Slaton 2012). Extensive literature was evaluated if and how extrinsic and intrinsic factors contribute to species rarity. Species carried forward to the list of species of conservation concern are those for which the identified

threats were considered to at least in part affect species viability, thus contributing to the substantial concern for species persistence.

If no information on threats or concern for persistence in the planning area was available, the species was determined to have 'insufficient information available to conclude there is a substantial concern about the species capability to persist in the plan area over the long term', and the species was not carried forward for further consideration.

Additional detail on the process used for evaluating potential plant species of conservation concern can be found in the Final Sequoia National Forest assessment (USDA 2013) and accompanying topic papers completed as the first phase of plan revision. This information was considered to be evidence for concern for these species persistence, and was thus the reasoning for carrying them forward for further consideration.

Sequoia National Forest Species of Conservation Concern

In all, 109 plant species were considered for the Sequoia National Forest plan area. Of those, 49 met the criteria of species of conservation concern for the Sequoia NF (table 1), comprising 44 flowering plants, 1 ferns, 3 mosses, 0 lichen, and 1 conifer. This document is divided into two major sections: chapter 1 provides the rationale for all species determined to be species of conservation concern; chapter 2 provides the rationale for those species considered but determined not to meet criteria of species of conservation concern. There is also an appendix that includes a table summarizing why species were removed from the previous 2016 list, and another for why a sensitive species does not have a rationale in this document.

Table 1. List of proposed plant species of conservation concern for the Sequoia National Forest, June 2019

Common Name (*Scientific name*)
Walker Pass milk-vetch (*Astragalus ertterae*)
Kern Plateau milk-vetch (*Astragalus lentiginosus* var. *kernensis*)
Little Kern or Shevock's milk-vetch (*Astragalus shevockii*)
Kern County milk-vetch (*Astragalus subvestitus*)
Hidden rockcress (*Boechera evadens*)
Tulare rockcress (*Boechera tularensis*)
Scalloped moonwort (*Botrychium crenulatum*)
Alkali mariposa lily (*Calochortus striatus*)
Shirley Meadows star-tulip, mariposa lily (*Calochortus westonii*)
Pygmy pussypaws (*Calyptridium pygmaeum*)
Kern River evening primrose (*Camissonia integrifolia*)
Muir's tarplant (*Carlquistia muirii*)
Kern Plateau bird's-beak (*Cordylanthus eremicus ssp. kernensis*)
Mojave tarplant (*Deinandra mohavensis*)
Rose-flowered Larkspur (*Delphinium purpusii*)
Sierra bleeding heart, Tulare County bleeding heart (*Dicentra nevadensis*)
Calico monkeyflower (*Diplacus pictus* (*Mimulus pictus*))
Tracy's eriastrum (*Eriastrum tracyi*)
Hall's daisy, Hall's fleabane (*Erigeron aequifolius*)
Kern River daisy (*Erigeron multiceps*)
Breedlove's buckwheat, Piute buckwheat (*Eriogonum breedlovei* var. *breedlovei*)
Monarch buckwheat (*Eriogonum ovalifolium* var. *monarchense*)

Common Name (*Scientific name*)
Greenhorn fritillary (*Fritillaria brandegeei*)
Boyden Cave gilia (*Gilia yorkii*)
Tube flower bluecup (*Githopsis tenella*)
Blandow's bog moss (*Helodium blandowii*)
Piute cypress (*Hesperocyparis nevadensis*)
Monarch golden aster (*Heterotheca monarchensis*)
Shevock's golden aster (*Heterotheca shevockii*)
Kern Plateau horkelia (*Horkelia tularensis*)
Short-leaved hulsea (*Hulsea brevifolia*)
Field ivesia (*Ivesia campestris*)
Yosemite lewisia (*Lewisia disepala*)
Meesia moss (*Meesia uliginosa*)
Shevock's copper moss (*Mielichhoferia shevockii*)
Baja navarretia (*Navarretia peninsularis*)
Chimney Creek nemacladus (*Nemacladus calcaratus*)
Twisselmann's nemacladus (*Nemacladus twisselmannii*)
Purple mountain-parsley (*Oreonana purpurascens*)
Woolly mountain-parsley (*Oreonana vestita*)
Spjut's bristle moss (*Orthotrichum spjutii*)
Charlotte's phacelia (*Phacelia nashiana*)
Nine Mile Canyon phacelia (*Phacelia novenmillensis*)
Cut-leaf checkerbloom (*Sidalcea multifida*)
Piute Mountains jewel-flower (*Streptanthus cordatus* var. *piutensis*)
Tehipite Valley jewel-flower (*Streptanthus fenestratus*)
San Bernardino aster (*Symphyotrichum defoliatum*)
Dedecker's clover (*Trifolium kingii ssp. dedeckerae* (*T. dedeckerae*))
Oval-leaved viburnum (*Viburnum ellipticum*)

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California Native Plant Society, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website http://www.rareplants.cnps.org [Accessed 10 April 2017].

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Chapter 1 – Plant Species Meeting Criteria for Species of Conservation Concern

Astragalus ertterae - Walker Pass milk-vetch

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation trampling; trail maintenance; cattle grazing

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Astragalus ertterae (Walker Pass milk-vetch) is a rare species of milkvetch that is endemic to Walker Pass (Kern County, California), where it occurs in open areas with sandy, granitic soil in pine/oak woodlands, and pinyon-juniper (1750-1900 m elevation). Of 4 total occurrences in the CNDDB, 3 are found in the Sequoia National Forest plan area. Most Consortium of California Herbaria specimens were observed and collected along the Pacific Crest Trail in the Kiavah Wilderness. The Pacific Crest Trail bisects two populations; trampling and trail use present a minor threat and grazing is a possible threat. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Astragalus lentiginosus var. kernensis - Kern Plateau milk-vetch

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation trampling; unauthorized OHV travel; grazing

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T2?

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Astragalus lentiginosus var. *kernensis* (Kern Plateau milk-vetch) occurs in subalpine conifer forest, on dry gravelly or sandy slopes and flats, primarily in and around the large meadows of the upper Kern Plateau and on Charleston Peak in Nevada. It is known at 2350-2750 m elevation, and blooms June through July. Ecosystem types associated with this species include lodgepole pine. Ten of the 44 CNDDB occurrences are on the Sequoia National Forest. Some popoulations are located in or near campgrounds and along hiking trails. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Astragalus shevockii - Little Kern or Shevock's milk-vetch

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Grazing, recreation, fire suppression

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: California BLM Sensitive

Astragalus shevockii (Shevock's milkvetch) is endemic to Little Kern River Drainage on the Sequoia National Forest plan area. It occurs in upper montane forest, growing on granitic sand,1900 m elevation. Consortium of California Herbaria vouchers include those from the Golden Trout Wilderness. All 6

CNDDB occurrences are on the Sequoia National Forest, and the two TESP occurrences are on the forest. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Astragalus subvestitus - Kern County milk-vetch

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Livestock trampling; unauthorized OHV travel

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: None

Astragalus subvestitus is endemic to Kern and Tulare Counties of California, where it occurs in Great Basin scrub and pinyon/juniper woodlands, on loose soils adjacent to meadows and seeps. Consortium of

California Herbaria database vouchers include several from Piute Mountains and Kern Plateau. There are no CNDDB occurrences, since species with a 4.3 rare plant rank are not tracked in CNDDB. There are no records in the NRM-TESP database. Forest staff observed extensive trampling by livestock and unauthorized OHV travel. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Boechera evadens (BOEV = current Jepson name; Arabis fernaldiana var. stylosa) **- hidden rockress**

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation; mining

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Boechera evadens (hidden rockcress) is endemic to the central and southern High Sierra Nevada, where it grows on rock outcrops in upper montane coniferous fores, 2600 m elevation. All 4 CNDDB occurrences are on the Sequoia National Forest in the areas of Danner Creek, Rattlesnake Creek, Bald Mountain, and east of Big Meadow. There are multiple Consortium records for the species in the Sequoia National Forest plan area, including one from 2008 (SEINET3165997): east side of a small hill on the N side of Sherman Pass Rd., near the jct. with Woodpecker Tr. and Rattlesnake Tr., 1.4 miles W of the lookout on Bald Mountain, southern Sierra Nevada, Sequoia National Forest.There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

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Boechera tularensis - Tulare rockcress

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Unauthorized OHV travel; recreation trampling; road maintenance; grazing; climate change

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Boechera tularensis is endemic to Sierra Nevada in California. It grows on rocky slopes at elevations of 2400–3200 m, in upper montane and subalpine coniferous forests, with some reports from meadows. *B. tularensis* occurs in the Sequoia National Forest Plan area. There are nine California Natural Diversity Database (CNDDB) occurrences for *Boechera tularensis* located in the Sequoia National Forest plan area. Potential threats include unauthorized OHV travel and recreation trampling. There is substantial concern for the persistence of *Boechera tularensis* in the plan area due to the small number of occurrences found on the Sequoia NF and immediate direct threats.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [Accessed 18 April 2018].

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Botrychium crenulatum - scalloped moonwort

Type of plant: fern

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Hydrologic alteration; recreation trampling; unauthorized OHV travel; soil disturbance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4

State Rank: S3

CA Rare Plant Rank: 2B.2

CA State Status: None

Other Designations: R5 RF Sensitive; at risk in Nevada

Botrychium crenulatum lives on saturated hard water seeps and stream margins, 1500-3600 m elevation in the high Sierra Nevada and eastern Sierra Nevada. Montane, subalpine and meadow ecosytems. Just one of the 125 California Natural Diversity Database (CNDDB) occurrences for *Botrychium crenulatum* are in the Sequoia National Forest plan area. The area is in a grazing allotment that was vacant in 2011. There is substantial concern for the persistence of *Botrychium crenulatum* in the plan area due to a very limited number of occurrences (one) found on the Sequoia National Forest and immediate direct threats.

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Calochortus striatus - alkali mariposa lily

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Threats include grazing; trampling; road construction; hydrological alterations; and water diversions that result in the lowering of the water table

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Calochortus striatus (alkali mariposa-lily) grows in alkaline meadows or moist creosote-bush scrub, 800-1400 m elevation in the southern Sierra Nevada foothills and western Mojave Desert, and blooms April-June. Ecosystem types associated with this species include alkali spring/meadow, xeric shrub and blackbrush, chenopod scrub, and meadows and seeps. One of the 113 CNDDB occurrences is on the border of the Sequoia National Forest plan area, at the boundary with private land in Kernville. In general, the species is threatened by urbanization, grazing, trampling, road construction, hydrological alterations and water diversions that result in the lowering of the water table; it is potentially threatened by horticultural collecting and by non-native plants. The occurrence at the forest boundary is theatened by the increased development in the area; the demand for water could dry up seep. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

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Calochortus westonii – Shirley Meadows star-tulip

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Herbivory by wildlife. Potential threats may include mechanical equipment use and related activities, trampling, and competition from larger, more aggressive species.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Calochortus westonii (Shirley Meadows star-tulip) occurs in meadow edges or openings in lower montane conifer forest and black oak habitat types, 1500-2000 m elevation in the southern Sierra Nevada. It is found in deep loamy or shallow rocky habitat, derived from granitics or metamophics. Twenty-one of the 24 CNDDB occurrences are reported on the Sequoia National Forest, however, many are in the Giant Sequoia National Monument. In the Sequoia National Forest plan area, the species is found in the Greenhorn Mountains, Shirley Meadows area, and around Baker Peak. Sequoia NF has adopted a draft species management guide (USDA FS 1998).

Calochortus westonii is a bulbiferous, perennial herb with the potential to colonize new sites under suitable habitat conditions. *C. westonii* has populated skid trails after disturbance, so appears to tolerate

moderate disturbance. The Forest Service has implemented a "flag and avoid" policy for *C. westonii*, according to an agreement with the USFWS in 1990. A 1984 species management guide for this species was updated in 1998 to incorporate new demographic information and propose similar and additional recommendations for enhancing suitable habitat to protect and promote the species (USDA 1998). Potential threats include mechanical equipment and related activities, trampling, and competition from more aggressive species. A study on grazing effects to this species was inconclusive due to low grazing pressure; the highest threat appeared to be herbivory by wildlife.

Both natural and man-made disturbances have been a part of the ecosystem in the Greenhorn Mountains for decades. *Calochortus westonii* habitat has been subjected to a wide range of natural events and human activities, such as fire, grazing, timber harvest, road building and recreation; populations are often found on sites moderately disturbed from fire or logging, but are seldom found on sites where intensive management activities have occurred, such as post-harvest plantations. Overall results from a four-year demographic study of *C. westonii* conducted by San Francisco State University (Knapp 1996, and annual progress reports (1992-1994) and a final summary report (1995) are located at the Sequoia National Forest supervisors office) indicate that low levels of disturbances before or after the growing season may promote *C. westonii* population expansion by reducing competition for available sunlight, water and nutrients. Sites may be "opened up" enough to allow reestablishment of a previously existing population or colonization of a new population. The population growing on the main slope of the Shirley Meadows Ski Area does not appear to have been negatively affected by years of high impact maintenance activities

There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

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Calyptridium pygmaeum - pygmy pussypaws

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Possibly threatened by development, vehicles and recreational activities.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Calyptridium pygmaeum occurs in upper montane and subalpine ecosystems, growing in sandy to gravelly soils, usually dry, on flats or slopes at 6500-10200 ft. elevation in the central and southern High Sierra Nevada. Known from fewer than 10 occurrences, there are two California Natural Diversity Database (CNDDB) recorded occurrences for *Calyptridium pygmaeum* in the Sequoia National Forest plan area, which are from the 1960s and 1970s (one at Rodeo Flat and the other at Beach Meadow). There are also Consortium of California Herbaria vouchers from the Big Meadow area from the 1970s. There is substantial concern for the persistence of *Calyptridium pygmaeum* in the plan area due to the limited number of occurrences (three) found on the Sequoia NF and immediate direct threats to those occurrences.

References

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Camissonia integrifolia - Kern River evening primrose

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Unauthorized OHV travel; road maintenance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: None

Camissonia integrifolia occurs in chaparral at elevations of 2500 to 3000 feet. There are 14 Consortium of California Herbaria specimens from Kern County, near Weldon and Kelso Canyon, these collections are from the 1950s through 2015. There are historic occurrences from the 1950s and 1960s, including 4 CNDDB occurrences, with one of those occurring in the plan area near Miracle Hot Springs. Potentially threatened by road maintenance. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

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Carlquistia muirii (Raillardiopsis m.) - Muir's tarplant

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation; vegetation management (fuels treatment)

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Carlquistia muirii (synonym of *Raillardiopsis muirii*) occurs in chaparral (montane), lower montane, and upper montane coniferous forest; growing on dry, open sites on granitic soils and rock outcrop at 1100-2500 meters. The California Natural Diversity Database (CNDDB) contains 21 recorded occurrences for *Carlquistia muirii*, with three known from the Sequoia National Forest. Occurrences in the plan area include the Baker Point Botanical area and along the ridege to Church Dome. There is also a NRM-TESP occurrence at Church Dome (USDA FS 2017). There is substantial concern for the persistence of *Carlquistia muirii* in the plan area due to small numbers of occurrences (three) found on the Sequoia National Forest and immediate direct threats.

References

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Cordylanthus eremicus ssp. kernensis - Kern Plateau bird's-beak

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Possibly threatened by trail maintenance, recreation trampling, and unauthorized OHV travel.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3?T2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Cordylanthus eremicus ssp. *kernensis* (Kern Plateau bird's beak) is known only from the Kern Plateau region. It grows in open forest or meadows on summits and north faces of mountains, 2100-3000 m elevation, and blooms June-August. Ecosystem types associated with this species include pinyon-juniper, xeric shrubland, and upper montane conifer. Four of the 14 CNDDB occurrences are from the Sequoia National Forest, including Bald Mountain, north side of Sherman Pass Road, and west of Jackass Meadow. There are no records in the NRM-TESP-IS database. There are several Consortium of California Herbaria vouchers found on the Sequoia NF plan area. There is substantial concern about the species'

capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

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Deinandra mohavensis (*Hemizonia mohavensis*) – Mojave tarplant

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Grazing; hydrological alterations; recreation; road maintenance; unauthorized OHV travel

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: Endangered

Other Designations: CA SGCN; R5 RF Sensitive; California BLM Sensitive

Deinandra mohavensis (Mojave tarplant) is California State Endangered listed as *Hemizonia mohavensis*. It grows in moist sites or openings in chaparral, desert scrub, or woodland in the southern Sierra Nevada, and blooms May-January. Three of the 77 CNDDB occurrences are on the Sequoia National Forest, which

includes an extend area along Corral Creek and another along Highway 155 where it is adjacent to Shirley Creek (2006). CNPS lists threatened by development, grazing, hydrological alterations, recreational activities, road maintenance, and vehicles. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Delphinium purpusii - Rose-flowered larkspur

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Deer browse, recreation trampling, road maintence, trail construction, unauthorized OHV travel, and impacts from non-native plants.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Delphinium purpusii is endemic to the Sequoia National Forest in the southern Sierra Nevada, in Kern and Tulare Counties of California, and the west edge of the Mojave Desert; it may also occur on BLM lands. Most sites appear to be in the Kern River drainage, north and south of Lake Isabella. It has been collected between 235 and 1495 m (770-4900 ft) in elevation, on slopes, hillsides, in washes, in ravines, in canyons, above streams, on cliffs, in talus, below or in crevices of rock outcrops, or near large boulders. Areas may be sunny or shaded, and dry to moist. Slopes may be flat to steep, and aspects from east- to north- to west-facing have been observed. The soil is sandy, gravelly, talus, or fractured rock, occasionally a clay loam, and derived mostly from granite or metamorphics, although it also may be a carbonate, and *D. purpusii* was particularly abundant on a marble outcrop at one site. The surrounding vegetation may be chaparral, foothill woodland, grey pine woodland, yellow pine forest, oak-buckeye woodland, oak woodland, pinyon-juniper woodland, Piute cypress forest, or riparian. The species blooms March-May.

Thirty-two of 55 CNDDB occurrences are on the Sequoia National Forest. There are historic and more recent Consortium of California Herbaria specimens for this species. CNPS states precise location and endangerment information needed. Monitoring information has been conducted at Roads End - Kern River, by F. Linton in 2007; Lower Kern Canyon, CNDDB, 2010; and at Piute Mountain Road, by Wenk in 2010. Collections made 1 year after a fire suggest that fire may be beneficial or at least not entirely harmful to this species (Linton 2017). There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Linton, F. 2017. Personal communication with Fletcher Linton, Forest Botanist, and Andrea Montgomery, acting planning botanist. 12/4/2017.

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Dicentra nevadensis - Sierra bleeding heart, Tulare County bleeding heart[1]

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Possibly threatened by trampling. Climate change; fire suppression activities; invasive plants

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S4

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: R5 RF Sensitive

Dicentra nevadensis is a perennial herb that is endemic to Tulare and Fresno Counties. Sierra bleeding heart inhabits sandy or gravelly openings in subalpine and alpine ecosystem types. It is found at approximately 7,500 - 10,000 feet elevation. Habitat is potentially sensitive to disturbance. Within the Sequoia National Forest plan area, there is a Consortium of California Herbaria specimen from Big Meadow. There are approximately 40 documented occurrences, from both CNDDB and Consortium of California Herbaria records, which are mostly from Sequoia National Park, Giant Sequoia National Monument, and Sierra National Forest. There are no CNDDB records for this species, since CNDDB does not track species with high rankings. There is concern for the persistence of *Dicentra nevadensis* in the plan area due to the relatively small number of occurrences found on the Sequoia NF and associated direct threats.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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[1] Can be confused with *D. formosa*.

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Diplacus pictus (*Mimulus pictus*) - calico monkeyflower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Grazing, recreation trampling, road maintenance, trail maintenance, unauthorized OHV travel, and non-native/invasive plants

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: California BLM Sensitive

Diplacus pictus is endemic to California, found only above the southeastern San Joaquin Valley within Kern County and Tulare County; from the western Tehachapi Mountains and southernmost Sierra Nevada foothills, at elevations of 135–1,250 metres (443–4,101 ft). It grows in open California oak woodland habitat, in bare rocky soils around granite outcrops. Ecosystem types associated with this species include blue-oak interior live oak woodland. D. pictus is found along Kern River, along Highway 178, and the six CNDDB occurrences on the Sequoia National Forest are in this area. Threatened by recreation trampling, road manintenance, grazing and non-native plants. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Eriastrum tracyi - Tracy's eriastrum

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Threatened by unauthorized OHV travel; competition from invasive species; development; grazing; recreation trampling, campground expansion; road maintenance, grading or widening; sand or salt buildup from snow removal; fuels reduction and fuelbreak maintenance.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3Q

State Rank: S3

CA Rare Plant Rank: 3.2

CA State Status: Rare

Other Designations: R5 RF Sensitive; CA SGCN

Eriastrum tracyi occurs in the lower elevations of the eastern side of the southern Cascade Range, and also in the northern and southern Sierra Nevada foothills in blue oak interior, live oak woodland and chaparral-live oak ecosystems. It has populations on the Shasta-Trinity, Lassen, Sierra, and Sequoia National Forests. There is some taxonomic uncertainty regarding *Eriastrum tracyi* with *E. brandegeeae* or

undescribed taxa. Even if taxonomic uncertainty "Q" and 3.2 in Rank were resolved, *E. tracyi* would be subsumed into a rare species with 1B Rank (*E. brandegeae*). Previously a 1B.2; plants with a California Rare Plant Rank of 3 lack the necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting California Rare Plant Rank 3 are taxonomically problematic (CNPS online inventory). Plants from northern counties may be attributable to *E. brandegeeae* or an undescribed taxa. Plants from the southern Sierra Nevada differ slightly from northern California plants and may belong to an undescribed taxon. The California Natural Diversity Database (CNDDB) contains 90 recorded occurrences for *Eriastrum tracyi* with seven labeled from the Sequoia NF, some of which are in the Giant Sequoia National Monument.

In the southern Sierra Nevada, *Eriastrum tracyi* occurs in Fresno, Tulare and Kern Counties, with the majority of occurrences in Kern County. *E. tracyi* inhabits chaparral, cismontane woodland; elevation 315 – 1645 meters; often along roads and growing in gravelly shale above compacted clay soil, gravelly loam, coarse granitic sand, stony clay loam, or adobe. Consortium of California Herbaria many records from Sequoia NF plan area, especially in Piute Mountains, Breckenridge Mountain, Lake Isabella, and Sherman Pass Rd. There is concern for the persistence of *Eriastrum tracyi* in the plan area due to the relatively small number of occurrences found on the Sequoia NF and associated direct threats.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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Erigeron aequifolius - Hall's daisy, Hall's fleabane

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation trampling, fuels treatment

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Erigeron aequifolius is known from fewer than twenty occurrences spanning Madera, Fresno, Tulare and Kern Counties. Ecosystem types associated with this species include pinyon-juniper, where it is found in steep, rocky, granitic crevices with little or no competition from other species. It is generally found on dry ridges, approximately 5200 – 8000 ft. in elevation in mixed conifer forests, and blooms July-August. Six of 13 CNDDB occurrences occur in the Sequoia National Forest plan area (one more occurs in Giant Sequoia National Park). In the plan area, four occurrences are along the Little Kern River in the Golden Trout Wilderness. There is a potential for impacts from wildlfire and fuels treatments. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Erigeron multiceps - Kern River daisy

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Altered fire regime, lack of disturbance, grazing, recreation trampling, unauthorized vehicle travel, and mechanical treatments.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Erigeron multiceps is known from fewer than twenty extant occurrences on the Kern Plateau in Tulare County, California and from occurrences along Kern River just north of Lake Isabella, and one site in the Spring Mountains of Clark County, Nevada. The majority of the populations are in the northern portion of the Kern Plateau, the middle North Fork of the Kern River, and the Roaring Fork of the Kings River. On the Kern Plateau, occurrences are concentrated in the Jackass drainage, with a few found along the South Fork of the Kern River in the Kennedy Meadows area on the Sequoia National Forest. The middle North Fork of the Kern occurrences are north of the Kern Ranger Station along the Kern, in Sequoia NP and in the lower Little Kern on the Sequoia National Forest.

Erigeron multiceps (Kern River daisy) inhabits meadows and seeps and openings in upper montane coniferous forests at 1500-2500 m elevation, generally on flat or nearly flat terrain and sometimes among, and blooms June-August.

Habitat for *Erigeron multiceps* consists of primarily of sandy soils and sometimes among rock outcrops, in meadows, seeps, and openings in upper montane coniferous forests at 1500-2500 m elevation, generally on flat or nearly flat terrain. It is described as inhabiting mixed alluvial woodland dominated by *Pinus contorta* and *Populus balsamifera* ssp. *trichocarpa*, meadows in pine or aspen woodland, and rocky riverbars/islands in sandy soils in sunny openings with moderate herbaceous cover, and occasionally beneath a patchy overstory of *Salix* sp., and in the lodgepole habitat type. Elevations range from 1500 to 2550 meters. According to Linda Tanner-Sutton (1997 R5 Sensitive plant review), the species is often found growing on previously disturbed sites, such as old logging roads, annual drainages and washes.

Of the 20 collections listed in the Consortium, many are from the Jackass Meadow and Kern River Flats areas in Kern and Tulare Counties, and one is documented from “Bloody Canyon”, with no additional information. A specimen housed in the Inyo NF Herbarium (Milano, 1992) is from a population on the Sequoia National Forest, and notes “heavy grazing”. Reports of monitoring visits include an email from Gary Milano to T. Ritter in 1992 reporting that populations on the S. Fork above and below Kennedy Meadows, elev. 6000 ft., were 70% blooming. Kathleen Nelson reported on 7/9/1999 that she, Sue Weis, and Jim Shevock visited the population near Kennedy Meadows Campground during a Jepson Workshop; population status and threats were not reported. CNDDB reports that from 1984 to 2013, the occurrence near Jackass Creek was stable to increasing, the Fish Creek occurrence was stable from 1984-2013, and from 1992-2012 the Kennedy Meadows occurrence was stable to increasing.

Twenty-four of 30 CNDDB occurrences are in the Sequoia National Forest plan area. Sequioa NF has adopted species management guidelines (USDA FS 1994). Many colonies on the Sequoia National Forest are located adjacent to grazed meadows and dirt bike trails, unauthorized vehicle travel and inappropriate grazing levels can contribute to plant loss and habitat/soil disturbance. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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USDA, Forest Service. 1994. *Erigeron multiceps* interim species management guide. Inyo National Forest Supervisor's Office. Bishop, CA: USFS. 9 pp. + appendices.

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Eriogonum breedlovei var. breedlovei - Breedlove's buckwheat, Piute buckwheat

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Extremely limited habitat. Potential threats from mining, unauthorized OHV travel, and fuel treatments.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3T2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Eriogonum breedlovei var. *breedlovei* (Breedlove's buckwheat) is endemic to the Piute Mountain area, Kern County, 2300-2500 m elevation. Ecosystem types associated with this species include mixed conifer and pinyon-juniper, where it is found in rock outcrops and carbonate substrate. All 10 CNDDB occurrences are on the Sequoia National Forest plan area.

There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats, low numbers of occurrences, and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Eriogonum ovalifolium var. monarchense - Monarch buckwheat

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T1

State Rank: S1

CA Rare Plant Rank: 1B.1

CA State Status: None

Other Designations: R5 RF Sensitive

Eriogonum ovalifolium var. *monarchense* is endemic to only one occurrence, consisting of fewer than 30 individuals, in the Kings River drainage basin (Fresno County), where it is threatened by non-native plants. It inhabits cracks and ledges (rock outcrops) of limestone (carbonate) formations, forming mats in sandy soil pinyon-juniper at ~ 6030' elevation. The site is on limestone ledges on the north side of the Monarch Divide just below the ridge top. Each mat had only a few widely spaced inflorescences. It appears to fall on both the Sierra National Forest and Sequoia National Forest on the Monarch Divide, within the Monarch Wilderness (See Biological Evaluation for Sensitive Plants Report for the Inyo, Sequoia, and Sierra National Forests, Slaton 2016, for collection information & other references).

The primary threat to the continued existence of this taxon is that less than 30 individuals are known to exist over a small area of a few thousand square meters. A landslide or other stochastic event could potentially destroy the population (and thus the species), or leave so few genetic individuals that persistence is affected by a greater genetic bottleneck. The effects of climate change on this buckwheat are unknown, but if conditions at the only known location change significantly, the habitat may no longer support a vigorous, self-perpetuating population. In addition, the presence of the non-native, somewhat invasive red brome (*Bromus madritensis* var. *rubens*) could indicate encroachment of invasive non-native plants into the habitat. There is substantial concern about the capability of *Eriogonum ovalifolium* var. *monarchensis* to persist over the long term in the plan area because of extreme rarity with such a small occurrence (30 individuals scattered over a few thousand square meters) which makes it much more vulnerable to extirpation or severe diminishment from random (stochastic) events or climate change than if the species occurred in more sites with greater numbers. There is also concern for persistence of *Eriogonum ovalifolium* var. *monarchensis* with the threat of invasive species.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

Slaton, Michele. 2016. Biological Evaluation for Sensitive Plants Report for the Inyo, Sequoia, and Sierra National Forests. May 5, 2016. Available in the Project Record for the Final Environmental Impact Statement for Revision of the Sequoia National Forest Land Management Plan.

Fritillaria brandegeei - greenhorn fritillary

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Deer browse, recreation trampling, and incorrect treatment activities.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2G3

State Rank: S2S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Fritillaria brandegeei (Greenhorn fritillary) is a narrow endemic of Kern and Tulare Counties; it grows in granitic soils in open mixed conifer or black oak forest, 1500-2100 m elevation in the southern Sierra Nevada and blooms April-June. Ecosystem types associated with this species mixed conifer and black oak forest. Thirty-six of 37 CNDDB occurrences are reported as being on the Sequoia National Forest, however, with 24 located in the plan area and the remainder in Giant Sequoia NM. Threats include vegetation treatments, deer browsing, recreation trampling, and botanical collections.There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Gilia yorkii - Boyden Cave gilia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Invasive species and slope stability.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.1

CA State Status: None

Other Designations: R5 RF Sensitive

Gilia yorkii is a very narrow endemic known from only three occurrences in eastern Fresno County (CNPS, 2016; Shevock & Day, 1998; CDFW, 2016). One of these three occurrences is at the boundary with Sierra NF and Sequoia NF, located on a limestone/marble formation of the Monarch Divide near Boyden Cave within the Monarch Wilderness. The other two occurrences are in Giant Sequoia National Monument, to the south of the border with Sequoia NF. *G. yorkii* inhabits sunny to semi-shaded, coarse, sandy soil in rock outcrops and cracks of limestone (carbonate) formation, with intense exposure to sun and wind causing xerophytic habitat conditions in a canyon live oak and pinyon-juniper woodlands. It is found at 1290-1830 meters elevation.

The Sierra NF and Giant Sequoia NM populations of *Gilia yorkii* are on ultra-steep slopes on the Monarch Divide and far removed from trails. Since it is difficult to access, human-caused threats are unlikely. Although this annual plant is adapted to extremely harsh conditions, the effects of climate change is unknown, but with warmer average temperatures and possibly less average annual precipitation, the habitat may no longer support a self-perpetuating population over the long term. The presence of the non-native, somewhat invasive red brome (*Bromus madritensis* var. *rubens*) could indicate encroachment of invasive non-native plants into the habitat. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low number of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

Slaton, Michele. 2016. Sequoia National Forest Plants SCC Rationale Addendum 1. June 2016. Available in the Project Record for the Final Environmental Impact Statement for Revision of the Sequoia National Forest Land Management Plan.

Githopsis tenella - tube flower bluecup or delicate bluecup

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Threatened by foot traffic, trampling, and other recreational activities. Ground disturbance; grazing; fire suppression

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: None

Githopsis tenella occurs in chaparral and cismontane woodland. Consortium of California Herbaria specimens from within the plan area include two C.B. Hardham 1958 collections from Wagy Creek Fire Road on the east side of Greenhorn Mountains, and a Fene Van Horn 1967 collection from the same area. Threatened by foot traffic and recreational activities. There is substantial concern about the species'

capability to persist over the long term in the plan area because of identified threats and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Helodium blandowii - Blandow's bog moss

Type of plant: moss

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Climate change. Possibly threatened by hydrologic alteration and grazing.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4

State Rank: S2

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Helodium blandowii also known as Blandow's helodium moss, Blandow's tamarisk-moss, Blandow's bogmoss, and Blandow's feathermoss, is a rare plant in the Western U.S. (Oregon and California), but occurs all around the northern hemisphere in higher latitudes. Ecosystem types associated with this

species include subalpine and meadow. Very distinctive due to abundant paraphyllia, which are minute leaf-like structures borne on the stems or branches among the leaves. There is just one known occurrence in the plan area; a CNDDB occurrence (from a 2006 Laeger collection) in the Sirretta Meadows area at 9000 feet elevation. Possibly threatened by grazing and hydrological alterations. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low number of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Hesperocyparis nevadensis - Piute cypress

Type of plant: conifer

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Altered fire regime; recreation, horticultural collection

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: California BLM Sensitive

Hesperocyparis nevadensis (syn *Cupressus arizonica* ssp. *nevadensis*) is narrowly endemic to southern Tulare and northern Kern Counties. Ecosystem types associated with this species include pinyon-juniper and chaparral-live oak, occurring on soils of granitic origin at altitudes of 3,000–6,000 feet. There are 18 element occurrences of Piute cypress. There are 12 known Piute cypress groves in the plan area; locations include the Greenhorn and Piute Mountains. The largest stand is in the Bodfish Grove Botanical Area on the Sequoia National Forest. Small populations occur in Long Canyon Research Natural Area. The most recent find is the Bartolas Creek grove in Domeland Wilderness.

Like most California cypress, it is heavily reliant on wildfire for its regeneration. Its cones remain closed for years, only opening after a fire to release seeds. Fire suppression policies of the past decades severely limited reproduction of this fire dependent species. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Heterotheca monarchensis - monarch goldenaster

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Invasive species; climate change

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.1

CA State Status: None

Other Designations: R5 RF Sensitive

Heterotheca monarchensis, known by the common names monarch goldenaster and sequoia false goldenaster, is a rare species that is endemic to Fresno County. *Heterotheca monarchensis* is found scattered on south-facing slopes of limestone in cracks, ledges and flats, with higher densities of plants seen in the coarse sandy flats at the base of cliffs, from 3650 - 6000 feet elevation. Growing with mountain mahogany, canyon live oak and pinyon pine, on SE-facing crevices and gravel of carbonate formation. It is known only from near Boyden Cave in the Kings River Canyon, found in the limestone cliffs at about 5100 feet elevation along with a few other rare local endemics. The plant was described as a new species in 1996. Known from three occurrences on the Windy Cliffs limestone formation northeast and southwest of the Horseshoe Bend of the Kings River (both sides of the Kings) near Boyden Cave. All three locations that are documented in Rarefind (CDFW, 2016) and the California Consortium of Herbaria (Baxter et al., 2016) are in the Sequoia National Forest; with two found in Giant Sequoia National Monument and one on the Sequoia National Forest forest plan area. They are at least 0.4 miles from the Sierra National Forest boundary. Accession numbers are CAS1120280, JEPS96214, and UCD133009. Recorded herbarium specimen information is Windy Cliffs - Monarch Wilderness, Dana York, 1996; Windy Gulch - Monarch Wilderness, Dana York and Jim Shevock, 1996.

Non-native plant species are considered a threat (CNPS 2018). The rugged terrain limits recreation associated threats. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Heterotheca shevockii – Shevock's golden aster

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Road and trail maintenance; recreational activities/trampling

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Heterotheca shevockii (Shevock's golden-aster) is endemic to small area of the lower Kern river in Kern County; found along about 8 miles of the river, and Highway 178, below Isabella Dam. The species grows in crevices and on shallow sand in grassland, foothill woodland, pine/oak woodland, and riparian communities, at 400-800 m elevation. It appears to do well in disturbed areas. Seven of 9 CNDDB occurrences are on the Sequoia National Forest. The occurrences are threatened by highway maintenance and recreation acitivities, especially trampling. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Horkelia tularensis - Kern Plateau horkelia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Potentially threatened by mining and recreation trampling, unauthorized OHV travel, and infrastructure maintenance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Horkelia tularensis (Kern Plateau horkelia) is endemic to the Kern Plateau in Tulare County, where it is known from about ten occurrences in the High Sierra Nevada, at 2350-2850 m elevation, on the Sequoia National Forest. *Horkelia tularensis* is in the rose family and grows in rocky, exposed areas as a mat-forming perennial herb. Ecosystem types associated with this species include montane. All five CNDDB occurrences are on the Sequoia National Forest, including in Troy Meadow, Fish Creek Campground, and on Bald Mountain (i.e., in the botanical area). There are 5 NRM TESP occurrences in similar localities. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats, low numbers of occurrences, and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

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Hulsea brevifolia - short-leaved hulsea

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Altered fire regime; recreational foot traffic; logging; hazard tree removal after 4-year drought; erosion and road maintenance. In plan area, use limited to nearby trails; however, fire and significant wind events have affected habitat, including some positive effects from fire.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Hulsea brevifolia is endemic to portions of the High Sierra Nevada, located on the Sierra and Sequoia National Forests, Sequoia and Kings Canyon National Parks, and Yosemite National Park. It is found in openings in lower and upper montane forests, growing in coarse granitic or metamorphic (volcanic) soils. It appears to benefit from fire, as it is often abundant after fire and other disturbance that reduce canopy cover. Distribution is from Tuolumne County to Tulare County, encompassing National Forest lands and Yosemite National Park and totaling about 70 occurrences. The California Natural Diversity Database (CNDDB) contains 64 recorded occurrences for *Hulsea brevifolia*. There is one occurrence in the Sequoia National Forest plan area; it is located along Monarch Divide at the border with the Sierra NF, in Monach Wilderness. There is substantial concern for the capability of *Hulsea brevifolia* to persist over the long term in the plan area due to small occurrence and immediate direct threats.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Ivesia campestris - field ivesia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Road maintenance and unauthorized OHV travel

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: None

Ivesia campestris is a perennial herb that is endemic to the southern Sierra Nevada, including many small populations in Kern Plateau. Ecosystem types associated with this species include subalpine and meadow. There are twelve CNDDB occurrences (of 56 total) on the Sequoia National Forest plan area. Occurrences include along Rowell Creek, Albanita Meadow, Broder Meadow, Powell Meadow, and Big Meadow. Threats include road maintenance and unauthorized OHV travel. There is substantial concern about the

species' capability to persist over the long term in the plan area because of identified threats and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Lewisia disepala - Yosemite lewisia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Unauthorized OHV travel; recreation; fuels treatment

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Lewisia disepala grows in sand or granite of exposed mountain summits and knobs in subalpine conifer forest or alpine fell-fields; also found in rock outcrops in montane and upper montane ecosystem types;

found at 1340-3500 meters elevation in the central and southern High Sierra Nevada; blooms February-June.

The California Natural Diversity Database (CNDDB) contains 22 recorded occurrences for *Lewisia disepala* with two of them known from the Sierra NF plan area.There is concern for the persistence of *Lewisia disepala* in the plan area due to the relatively small number of occurrences found on the Sierra NF and associated direct threats.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Meesia uliginosa – Meesia moss

Type of plant: moss

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Grazing; packstock; hydrologic alteration

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S3

CA Rare Plant Rank: 2B.2

CA State Status: None

Other Designations: R5 RF Sensitive

The California Natural Diversity Database (CNDDB) contains 46 recorded occurrences for *Meesia uliginosa* with two reported from the Sequoia National Forest plan area. One occurrence is in the Golden Trout Wilderness, South Mountain Creek at Summit Trail, and the other occurrence is in the Jennie Lake Wilderness in a meadow just below Marvin Pass, on a trail to Rowell Meadow. Based upon the evidence and supporting best available science, this species does meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Dept. of Fish & Wildlife. 2017. Special vascular plants, bryophytes, and lichens list, April 2017. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline/ [Accessed 10 April 2017].

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Mielichhoferia shevockii (*Schizymenium shevockii*) - Shevock's copper moss

Type of plant: moss

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Extreme rarity; stochastic events

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Mielichhoferia shevockii grows on metamorphic rock, usually acidic, usually vernally mesic, often on roadsides, and sometimes on carbonate from chaparral to montane and subalpine forests.

The California Natural Diversity Database (CNDDB) contains 6 recorded occurrences for *Mielichhoferia shevockii* with three reported from the Sequoia NF. However, two occurrences are in Giant Sequoia National Monument northern unit and the one occurrence that is in the Sequoia National Forest plan area has incomplete information. The exact location is unknown, as it is described as located along County Road M-99 near Hospital Flat Campground and was collected by Shevock with an unspecified date. There is substantial concern for the persistence of *Mielichhoferia shevockii* in the plan area due to its low number of occurrences found on the Sequoia NF and threats.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Dept. of Fish & Wildlife. 2017. Special vascular plants, bryophytes, and lichens list, April 2017. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline/ [Accessed 10 April 2017].

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Navarretia peninsularis - Baja navarretia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Unauthorized OHV travel, road maintenance; recreation trampling

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Navarretia peninsularis (Baja navarretia) is native to southern California and Baja California, where it is uncommon, occurring in wet areas in open forest, 1400-2300 m elevation. It occurs in mesic habitat in chaparral, lower montane, meadows and seeps, and pinyon and juniper woodland. There is just one known occurrence in the plan area, in Squirrel Meadow near Breckenridge Campground, on Breckenridge Mountain. This location is represented by the only CNDDB occurrence on Sequoia National Forest, and the most northern location of the species. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Nemacladus calcaratus - Chimney Creek nemacladus

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Possibly threatened by foot traffic and grazing.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Nemacladus calcaratus (Chimney Creek nemacladus) is a rare species in the bellflower family that is endemic to Kern and Tulare Counties where it is known from Chimney Creek in the southern Sierra Nevada east of Lake Isabella. It occurs in woodland habitat on sandy granitic substrate, 1900-2100 m elevation. It was first collected in 1986 and described as a new species in 2008. Ecosystem types associated with this species include Pinyon-juniper. There are no CNDDB occurrences on the Sequoia National Forest. There are no records in the NRM-TESP-IS database from the Sequoia National Forest. Consortium of California Herbarium includes two locations in Kern County; three vouchers from 1986 by J.R. Shevock and L.L. Norris, specimen IDs CAS-BOT-BC177632, RSA791488 and RSA793091, all labeled as from Scodie Mountains, Kiavah Wilderness, along the Pacific Crest Trail about 1.5 miles south of Walker Pass, in Jacks Creek drainage; and a 2013 specimen by E.M. Gardner and N.S. Fraga is ID RSA840400, collected on a steep ridge, north side of slope, about 0.85 miles north of Pinyon Peak in Kiavah Wilderness, north end of wilderness.

Possibly threatened by recration trampling and grazing. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Nemacladus twisselmannii - Twisselmann's nemacladus

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Grazing; fire suppression activities; fuels treatments

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.2

CA State Status:

Other Designations: R5 RF Sensitive; California BLM Sensitive; CA SGCN

Nemacladus twisselmannii (Twisselmann's nemacladus) grows on granitic sands and rocks in yellow pine forest in the southern High Sierra Nevada, ca. 2240 m elevation, and blooms in July. Ecosystem types associated with this species include montane mixed conifer. Two of three CNDDB occurrences are on the Sequoia National Forest. One is located 0.2 miles west of Cannell Meadow Trail and the other is on on a ridgetop in Domeland Wilderness, which is also in the Church Dome RNA. Four occurrences are documented in NRM-TESP-IS for the Sequoia National Forest.

There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Oreonana purpurascens - purple mountain-parsley

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation trampling; trail maintenance, unauthorized OHV travel

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Oreonana purpurascens (purple mountain-parsley) is found on ridgetops, generally on metamorphic rocks, in red fir or lodgepole pine forests, 2375-2860 m elevation in the southern High Sierra Nevada, and blooms May-June. Ecosystem types associated with this species include Red fir.

There are nine CNDDB occurrences, out of 30, on the Sequoia National Forest plan area. Six occurrences in the Jennie Lake Trail and Weaver Lake Trail areas, and three in the Summit and Mountaineer Trail areas near the boundary with Giant Sequoia National Monument. There are several CNDDB occurrences in the monument.

There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Oreonana vestita - woolly mountain-parsley

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Possibly threatened by foot traffic and recreational activities.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Oreonana vestita (woolly mountain-parsley) grows on ridgetops, gravel, or talus, 1670-3500 m elevation, from the lower montane to subalpine coniferous forest zone, and blooms March-July. Ecosystem types associated with this species include upper montane and talus. There are two CNDDB occurrence records, out of 40 total, on the Sequoia National Forest in the Scodie Mountains (Kern County) from 2003. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Orthotrichum spjutii - Spjut's bristle moss

Type of plant: moss

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation; grazing

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: None

Known from four extant populations. Ecosystem types associated with this species include outcrops and pinyon-juniper. There is one CNDDB occurrence on the Sequoia National Forest located along a trail, below the Long Valley Campground near the border with BLM.

There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Dept. of Fish & Wildlife. 2017. Special vascular plants, bryophytes, and lichens list, April 2017. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline/ [Accessed 10 April 2017].

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Phacelia nashiana - Charlotte's phacelia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Rarity; Grazing, mining, unauthorized OHV travel, and roads/road maintenance are all listed as threats for occurrences outside the plan area, but within the plan area there are reportedly no immediate threats.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: California BLM Sensitive

Ecosystem types associated with this species include pinyon-juniper and sagebrush. There are 5 CNDDB occurrences, out of 68, on the Sequoia National Forest in the Scodie Mountain area. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Phacelia novenmillensis - Nine Mile Canyon phacelia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Recreation trampling; unauthorized OHV travel, salvage logging mechanical disturbance; recreational development; cattle grazing.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2G3

State Rank: S2S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Phacelia novenmillensis (Nine Mile Canyon phacelia) occurs pinyon-juniper, Jeffrey pine, and canyon live oak forest, growing on dry, disturbed banks, sandy, gravelly or rocky sites, often in leaf litter, at approx. 1645-2640 m elevation. *Phacelia novenmillensis* responds to disturbance from wildfire and appears to behave as a "fire follower" (fire annual). It is more often found in metamorphic rock types. *Phacelia novenmillensis* is found on the eastern slopes of the southern Sierra Nevada in Tulare, Inyo, and Kern counties. On the Sequoia National Forest, there are many occurrences in the Kern Plateau and few in the Breckenridge and Scodie Mountains. Other occurrences are on BLM lands in the Caliente Resource area, south-east of Sequoia National Forest.

There are many herbarium specimens of this species; 17 of 30 CNDDB occurrences are from the Sequoia National Forest. Threatened by grazing and recreation. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats, low numbers of occurrences, and limited distribution.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

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Sidalcea multifida - cut-leaf checkerbloom

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Threats include recreation trampling, including horses off trail, and unauthorized OHV travel.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S2

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: None

Sidalcea multifida occurs in lower montane coniferous forest, meadows and seeps, and pinyon and juniper woodland. Fourteen of the 32 CNDDB records are from the Sequoia National Forest, including several from 2011 and 2012. Most of the 14 occurrences are in the plan area, while others are in the Giant Sequoia National Monument. Likewise, there are many Consortium of California Herbaria vouchers from the plan area. Recreation trampling, particularly by horses off trail, was identified as a threat. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

Calflora. 2018. Calflora Taxon Report. http://www.calflora.org. [Accessed 03/28/2018].

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Streptanthus cordatus var. piutensis - Piute Mountains jewel-flower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Road maintenance; unauthorized OHV travel; fire suppression activities

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T1

State Rank: S1

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Streptanthus cordatus var. *piutensis* (Piute Mountains jewel-flower) grows in open chaparral or Piute-cypress stands, 1200-1700 m elevation in the Piute Mts., and blooms June-July. Other ecosystem types associated with this species include pinyon-juniper. There are two CNDDB occurrences, out of 6 total, on the Sequoia National Forest. Consortium of California Herbaria specimens include several occurrences in Piute Mountains, including 2012 and 2015 vouchers.There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Streptanthus fenestratus - Tehipite Valley jewel-flower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Invasive plants, recreation trampling

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.1

CA State Status: None

Other Designations: R5 RF Sensitive

Streptanthus fenestratus occurs on granite ledges, rock outcrops or sand in open mixed conifer or oak woodland, 1050-1800 m elevation in the southern High Sierra Nevada, and blooms May-June. Carbonate and montane ecosystems. The California Natural Diversity Database (CNDDB) contains 11 recorded occurrences for *Streptanthus fenestratus* with two of them known from the Sequoia NF. This species is restricted to Tehipite Valley and environs, not found beyond this area despite extensive surveys in the last 30 years.

Threatened by non-native plants. Potentially threatened by trail maintenance and foot traffic. There is substantial concern for the persistence of *Streptanthus fenestratus* in the plan area due to limited known occurrences (2) with limited distribution found on the Sequoia NF and immediate direct threats to those occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Symphyotrichum defoliatum - San Bernardino aster

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Invasive species

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Symphyotrichum defoliatum (San Bernardino aster) occurs in cismontane woodland, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic) grasslands or disturbed places under 2050 m elevation, and blooms July-November. There are no CNDDB occurrences on the Sequoia National Forest. There are three Consortium of California Herbaria specimens from 1978 from Kern County, off of Mt. Pinos road, 0.5 mi west of junction with Frazier Park raod, on a small dirt side road. These appear to be the most northern extent of the species, and the only ones near the Sierra Nevada. Possibly threatened by non-native plants, and grazing. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Trifolium kingii ssp. dedeckerae (T. dedeckerae) - Dedecker's clover

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Climate change

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Trifolium kingii ssp. *dedeckerae* (Dedecker's clover) most commonly occurs on granitic soils, among rocks and boulders, in pinyon-juniper woodland, subalpine coniferous forest, and upper montane coniferous forest, at 2100-3500 m elevation, and blooms May-July. Another synonym is *Trifolium macilentum* var. *dedeckerae*. Ecosystem types associated with this species include pinyon-juniper, montane, and subalpine forest.

One CNDDB occurrence on the Sequoia National Forest, from 1982, located one mile north of Bonita Meadows. There are several Consortium of California Herbaria specimens from Kern Plateau on the Sequoia National Forest. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Viburnum ellipticum - oval-leaved viburnum

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Fuels reduction treatments, invasive species, climate change

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4

State Rank: S3

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: None

Location and other descriptions: G5 of local conservation concern.

Viburnum ellipticum is found in openings in westside Sierra chaparral, live oak, black/Brewers oak woodland, and lower mixed conifer forest, mostly in the transition zone between these ecosystem types. Its range extends from the Cascades in Washington State to the southern Sierra Nevada in California.

The Consortium for California Herbaria shows one specimen from the Sequoia National Forest: Specimen number CAS-BOT-BC2672256, collected by J.R. Shevock 29 July 1981, collection number 8894. The locality is described as "Along Delilah Springs Road, 1 mile W of Davis Flat road, Sequoia National Forest, Kings River Drainage S part of county." There are no NRM-TESP records from the Sequoia National Forest. CNDDB lists one occurrence from the Sequoia National Forest, in the same area as the herbarium collection, along Clover Meadow Road. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and limited occurrence numbers.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Native Plant Society, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website http://www.rareplants.cnps.org [Accessed 10 April 2017].

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

Linton, F. Personal Communication. 12/4/17.

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Chapter 2 – Plant Species not Meeting Criteria for Species of Conservation Concern

Allium abramsii - Abram's onion

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Not applicable to plan area.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: None

Allium abramsii occurs in lower and upper montane coniferous forest, often found in granitic sand habitat. It is found in Fresno, Madera and Tulare Counties at elevations of 1400 – 2000 m. The NatureServe G and S ranks recently changed from G2 and S2 to G3 and S3. The Consortium of California Herbaria database shows 7 vouchers listed from the Sequoia National Forest, which all occur in the Giant Sequoia National Monument area and are outside the Sequoia National Forest plan area. CNDDB lists five occurrences from the Sequoia National Forest, however, all 5 occurrences are replicas of five of the Consortium of California Herbaria records discussed above. Plants from the Kings River Canyon area are threatened by foot traffic, and potentially threatened by road maintenance and mining. There are no known occurrences of this species on the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Native Plant Society, Rare Plant Program. 2017. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website http://www.rareplants.cnps.org [Accessed 10 April 2018].

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Allium shevockii - Spanish Needle onion

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Renewable energy development

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: BLM-SS

Ecosystem types associated with *Allium shevockii* include rock outcrops and pinyon-juniper. Although there are populations 6 miles northwest and 15 miles south of the Scodie Mountains (i.e., Scodie Mountains are in the plan area), and there are similar elevations and habitats in the plan area, there are no confirmed occurrences on the Sequoia National Forest plan area (Linton 2017). None of the 10 CNDDB occurrences are on the Sequoia National Forest. There are no records in the Consortium of California Herbaria database and no records in the NRM-TESP-IS database from the Sequoia National Forest. *Allium shevockii* is not known to occur on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [Accessed 18 April 2018].

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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Linton, F. Personal Communication. 2017. Personal communication between Fletcher Linton, Forest botanist, and Andrea Montgomery, botanist detailed to Ecosystem Planning in the Regional Office. 12/4/17.

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Angelica callii - Call's angelica

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Potentially razing

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: None

Angelica callii occurs in woodland and lower montane coniferous forests. In the plan area, it is found in the Greenhorn Mountains and Kern River drainage near South Creek Falls. The Consortium of California

Herbaria database shows 8 vouchers listed from the Sequoia National Forest, all from the 1960s and 1980s. Four of the records fall within the boundary of the Sequoia NF plan area and four records are in the Giant Sequoia National Monument. There are no records in the CNDDB database from the Sequoia National Forest, since CNDDB does not track species with a rare plant rank of 4.3 because they are considered to be more secure. No records in NRM-TESP are on the Sequoia National Forest. There are no threats identified in the plan area. The best available science does not support a substantial concern about the species' capability to persist over the long term in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Boechera dispar (Arabis d.) - pinyon rockcress

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

No threats known in the plan area.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: None

Boechera dispar occurs in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. There are no records in NRM-TESP for the Sequoia National Forest. There are two

Consortium of California Herbaria vouchers listed from the Sequoia National Forest from the early 1980s: Black Mountain and Rockhouse Basin in Domeland Wilderness. These are also listed as CNDDB occurrences from the Sequoia National Forest. CNPS lists the species as threatened by mining, non-native plants, recreational activities, road construction, and vehicles. However, no threats were identified for the two 1980s specimens in the Domeland Wilderness. There is insufficient information to support a substantial concern about the species' capability to persist over the long term in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Boechera shevockii - Shevock's rockcress

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreation sport climbing

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.1

CA State Status: None

Other Designations: R5 RF Sensitive; CA SGCN

Boechera shevockii (Shevock's rockcress) is endemic to California. It occurs on rock outcrop ledges in upper montane forest, 2500 m elevation. The species is only known from one population, an occurrence on the Needles located in the Giant Sequoia National Monument, and indicated by the only CNDDB

record. Possibly threatened by recreational activities. This species is not known to occur on the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Botrychium minganense - mingan moonwort

Type of plant: fern

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Hydrologic alteration; trampling; unauthorized OHV travel - severe soil disturbance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4G5

State Rank: S3

CA Rare Plant Rank: 2B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Botrychium minganense (mingan moonwort) grows in meadows and open forest along streams or around seeps from 1500 to 3100 m elevation in the High Sierra Nevada in montane and subalpine habitat types. The state rank recently changed to an S3 from an S2. Although there is a population of this species 6 miles from the Hume Lake RD, a population 3 miles from the Western Divide RD, and a population 3 miles from the Kern River RD, all at similar elevation and habitats as found in and in contiguous habitat between these populations and the Sequoia National Forest, the species has not been observed in the plan area (Linton, F. pers. comm. 2017). None of the 57 CNDDB occurrences are on the Sequoia National Forest. There are no records in the NRM-TESP-IS database from the Sequoia National Forest and no records in the Consortium of California Herbaria database. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Dept. of Fish & Wildlife. 2017. Special vascular plants, bryophytes, and lichens list, April 2017. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline/ [Accessed 10 April 2017].

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Botrychium montanum - western goblin or mountain moonwort

Type of plant: fern

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Livestock; hydrology; conifer encroachment

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S2

CA Rare Plant Rank: 2B.1

CA State Status: None

Other Designations: R5 RF Sensitive

Botrychium montanum grows in shady montane, subalpine and meadow ecosystems, especially under *Calocedrus* along streams, 1500-2100 m elevation, in the high Sierra Nevada. *Botrychium montanum* is not known to occur on the Sequoia National Forest. The nearest population of this species is 25 miles north of the Sequoia National Forest (Linton, F. pers. comm. 2017). The California Natural Diversity Database (CNDDB) shows no occurrences for the Sequoia NF and there are no records in the NRM-TESP database or the Consortium of California Herbaria. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Brodiaea insignis - Kaweah brodiaea

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Threatened by residential development, road maintenance, vehicles, grazing, and non-native plants

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.2

CA State Status: Endangered

Other Designations: CA SGCN; R5 RF Sensitive; BLM-Sensitive

Brodiaea insignis (Kaweah brodiaea) is endemic to southern Sierra Nevada California, known only from the Tule and Kaweah River drainages. It grows in foothill blue-oak interior live oak woodland and valley and foothill grassland, 200 to 400 m elevation. Four of the 27 CNDDB occurrences are reported for the Sequoia National Forest, however they are all located in the Giant Sequoia National Monument plan area. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Bruchia bolanderi - Bolander's bruchia

Type of plant: moss

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Hydrologic alteration; grazing; confier encroachment

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3G4

State Rank: S3

CA Rare Plant Rank: 4.2

CA State Status: None

Other Designations: R5 RF Sensitive

Bruchia bolanderi occurs in Oregon, California, and Nevada. In California, it is found as far south as Tulare County. This moss occurs in aquatic/riparian montane ecosytems, where it colonizes organic or mineral soil along stream banks, in and around meadows, springs, and fens, 3800 to 8200 ft. elevation. The species is opportunistic, taking advantage of disturbed sites where there is minimal competition from other vegetation, and so it is believed to benefit from or require some disturbance. The California Natural Diversity Database (CNDDB) shows 54 recorded occurrences for *Bruchia bolanderi*, with one of these occurrences in Giant Sequoia National Monument. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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California macrophylla - roundleaf stork's bill

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Urbanization; habitat alteration; vehicles/roads; pipeline construction; feral pigs; invasives; grazing

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3?

State Rank: S3?

CA Rare Plant Rank: 1B.2

CA State Status: Plant Species of Greatest Conservation Need (State Wildlife Action Plan 2015)

Other Designations: California BLM Sensitive

California macrophylla occurs blue-oak interior live oak woodland. *California macrophylla* is not known to occur on the Sequoia National Forest. This species has a population 0.75 miles from the Kern River RD

of the Sequoia National Forest, at similar elevations and habitats as found on the Sequoia National Forest. There are, however, no known occurrences on the Sequoia National Forest (Linton, F. pers. comm. 2017): none of the 162 CNDDB occurrences; no records in the NRM-TESP-IS database; and no records in the Consortium of California Herbaria database for the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Calochortus palmeri var. palmeri - Palmer's mariposa lilly

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Potentially threatened by vegetation treatments, overgrazing, invasive plant species, recreation trampling, and unauthorized OHV travel.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3T3?

State Rank: S3?

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive Species; California BLM Sensitive

Calochortus palmeri var. *palmeri* is sparsely distributed across central and southern California from the Piute Mountains, Tehachapi Mountains and the La Panza Range south to the San Rafael, San Gabriel, San Bernardino, San Jacinto, and Santa Rosa Mountains. The northern extent of the population includes the southern end of the plan area, on the Piute and Breckenridge Mountains. Palmer's mariposa-lily occurs in meadows, seeps, and vernally moist areas in chaparral and lower montane coniferous forests, at elevations of 3,300-7,200 feet (1,000–2,200 meters), and blooms May-July. Hoover describes habitat for *Calochortus palmeri* var. *palmeri* as being "along streamlets where soil is wet during growing season but drying in summer." Habitat near Chuchupate Ranger Station on the Los Padres National Forest consists of the lower end of a small, moderately steep, moist meadow, with a moderate cover of grass and rush and a dense layer of leaf litter about 6-8 inches deep.

Site visit monitoring information shows continued presence in the following locations with no threats identified: Weldon Meadow (CNDDB) 1994; Moreland Mill Area (CNDDB) 2009; Bright Star Mine Area (CNDDB) 2009; Piute Mountains (Travel Management Crew/Linton) 2004-2005, and (Salvage Crew/Linton) 2009. There are twenty-two element occurrences from the Sequoia National Forest in CNDDB, they are all located in the Piute and Breckenridge Mountains. Similarly, there are 38 occurrences in NRM-TESP-IS and Consortium of California Herbaria vouchers for the Sequoia National Forest in the same areas. Recent focus on the Piute mountain area of the Sequoia National Forest for timber/fuels/forest health projects and off highway vehicle use, has expanded the number of *Calochortus palmeri var. palmeri* populations in this area (Slaton 2016). There is no substantial concern about the species' capability to persist over the long term in the plan area because inventories have expanded the occurrences and populations of this species and monitoring has indicated a stable trend. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Slaton, Michele. 2016. Biological Evaluation for Sensitive Plants Report for the Inyo, Sequoia, and Sierra National Forests. May 5, 2016. Available in the Project Record for the Final Environmental Impact Statement for Revision of the Sequoia National Forest Land Management Plan.

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Camissonia sierrae subsp. alticola - Mono Hot Springs evening-primrose

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreation trampling, invasive species

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3T2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations:

Camissonia sierrae ssp. *alticola* (Mono Hot Springs evening-primrose) grows on shallow soil on granite outcrops in Ponderosa pine forest, 2000-2350 m elevation, and blooms May-July. This species has not been observed on the Sequoia National Forest. None of the 19 CNDDB occurrences are from the Sequoia National Forest. There are no known occurrences of this species on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Canbya candida - white pygmy-poppy

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

No threats identified in plan area. Potential threats include recreational trampling, road and trail maintenance and construction, small scale gold mining, and ongoing development of the major utility and transportation corridor through Cajon Pass. Too frequent fire with an increasing prevalence of cheatgrass, and the effects of fire suppression are also threats.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3G4

State Rank: S3S4

CA Rare Plant Rank: 4.2

CA State Status: None

Other Designations: R5 RF Sensitive

Canbya candida is endemic to the western Mojave Desert and adjacent mountain slopes in Los Angeles, San Bernardino, Kern, and Inyo counties In Kern County, Canbya candida is known from near Lake Isabella, Walker Pass, and Kelso Peak/Valley. Most occurrences of pygmy poppy are located on private lands. *Canbya candida* is found on sandy, granitic soils, dry rocky areas, and openings in Joshua tree woodlands, pinyon-juniper woodlands, and Mojave Desert scrub habitat, at elevations of 1,970–3,940 feet (600–1,350 meters). It also occurs in areas with disturbed soils, such as fuel-breaks, areas within residential tracts, and roadsides. The species blooms from April-May. Herbarium specimens for this species include: Cyrus Canyon, Ernest C. Twisselmann, 1971; Walker Pass, Neil Havlik, 1969.

The species is widely distributed within its range and monitoring has indicated a stable trend for the species. No threats have been identified in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Carex tompkinsii - Tompkin's sedge

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Fire suppression activities

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4

State Rank: S4

CA Rare Plant Rank: 4.3

CA State Status: Rare; Plant Species of Greatest Conservation Need (State Wildlife Action Plan 2015)

Other Designations: None

Carex tompkinsii is found in chaparral, cismontane woodland, and lower and upper montane forests. There are no records of this plant in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Ceanothus pinetorum - Kern ceanothus

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Possibly threatened by unauthorized OHV travel.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: None

Ceanothus pinetorum occurs in lower and upper montane forests and subalpine forests. It is widely distributed across the Sequoia National Forest plan area. Possibly threatened by unauthorized OHV travel. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Cinna bolanderi - Bolander's woodreed

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreational trampling; hydrologic alteration; grazing; fuels treatments. The following disturbances have been observed by Yosemite National Park botanists: Bear trampling, deer browsing, social trails, trampling.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Cinna bolanderi inhabits moist to wet meadows and stream sides in the montane ecosystem of the western Sierra Nevada from 1850-2400 meters in elevation and blooms June-October. Soil parent material varies from granitic to metamorphic. Many (but not all) sites in Yosemite and Sequoia-Kings Canyon are near groves of big trees (*Sequoiadendron giganteum*).

Cinna bolanderi is endemic to the southern and central Sierra Nevada, ranging from Tulare County to Mariposa County. This species is known from fewer than 20 populations within the Sierra and Sequoia NFs, Yosemite NP, and Sequoia-Kings Canyon NP. Most of these occurrences are from Yosemite and Sequoia/Kings Canyon National Parks. There are currently six occurrences recorded in the California Natural Diversity Database (CNDDB) all of which are in the National Park System.

Cinna bolanderi has no known occurrences in the plan area. There are no records in the NRM-TESP-IS database for the Sequoia National Forest. A 1975 Consortium for California Herbaria specimen (by J.R. Shevock, Specimen ID CAS-BOT-BC184842, Collection Number 4720) is from the Giant Sequoia National Monument plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Clarkia xantiana ssp. parviflora - Kern Canyon clarkia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Road construction and wind energy listed as possible threats off the plan area; none in plan area

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4T3

State Rank: S3

CA Rare Plant Rank: 4.2

CA State Status: None

Other Designations: None

CNPS downlisted to watch list

Clarkia xantiana ssp. parviflora occurs in chaparral, cismontane woodland, Great Basin scrub, and foothill grassland. There are many occurrences in the plan area, including the Greenhorn, Breckenridge, Piute and Scodie Mountains. Possibly threatened by wind energy development and road widening. Based

upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Cryptantha incana - Tulare cryptantha

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Potential for impacts from inappropriate grazing; vegetation management treatments

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Cryptantha incana (Tulare cryptantha) occurs on both the Inyo and Sequoia National Forests, in gravelly or rocky areas in open lower montane coniferous forest, and occasionally chaparral and pinyon woodland, 1700-3000 m. This species has also been frequently collected in the understory of red fir forest in gravelly and loamy soils, usually in open areas. It blooms May-August. Dr. Kelley, Eastern Oregon University, is the primary author of *Cryptantha* treatment in The Jepson Manual (Baxter et al., 2012). Dr. Kelley's report is in the Inyo NF Rare Plant Files, Notes on Kern Plateau, 8/30/2006. Dr. Ron Kelley reports the species as common and abundant in the Kern area and that there is a need to verify population numbers

and reconsider ranking. Herbarium specimens include 69 Consortium records, including many from the Sequoia NF plan area. The Consortium of California Herbaria database shows 7 vouchers listed from the Sequoia National Forest. There are 3 occurrences listed in the NRM-TESP-IS database for the Sequoia National Forest. CNDDB lists 25 occurrences from the Sequoia National Forest, and 19 of these are in the plan area and the other six occur in Giant Sequoia National Monument.

Numerous collections from the plan area indicate this species is much more common than previously thought, and that several occurrences could be added to CNDDB. In addition, no threats have been documented. Natureserve indicates that ranks were assigned based on the very small number of occurrences, and that ranks have not been reviewed since 2005, and, thus, may need revision. Transfer of collection information into the CNDDB and subsequent re-ranking using the Natureserve protocol would help document the more common distribution of this species. Documentation of threats, if they exist, is also needed. There is no substantial concern about the species' capability to persist over the long term in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Delphinium inopinum - unexpected larkspur

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Potential threats from recreational activities; unauthorized off-highway vehicle trampling; logging; mining. The Summit National Recreation Trail (31E14) runs through the middle of the Slate Mountain occurrence that is located on the Giant Sequoia National Monument, putting them at some risk of adverse impact from mountain bike, non-motorized traffic, and trail erosion/maintenance. The Piute Mountain occurrences also have potential threats from logging, mining, and dirt bikes.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: R5 RF Sensitive

Delphinium inopinum inhabits dry rock outcrops and rocky ridges, in open pine and red fir forests, at approximately 7,200 to 9,200 feet elevation,in the southern High Sierra Nevada, It blooms from June-August. It is often found is association with FS sensitive species *Eriogonum twisselmannii*, *E. breedlovei* var. *breedlovei*, and *Oreonana purpurascens*. The more rugged sites along the Monarch Divide are relatively stable, but the saddle along the top of Slate Mountain and the Piute Mountain habitats are potentially vulnerable to disturbance. The species is found in disjunct populations mostly on the Sequoia National Forest, with the majority on Slate Mountain (Giant Sequoia National Monument) and the Piute Mountains. It also occurs on the Sierra National Forest (Monarch Divide), as well as in Sequoia NP and on BLM land (near Lamont Peak), from Fresno County through Tulare, Inyo, and Kern Counties.

Twenty-eight of the 30 CNDDB occurrences are shown as occurring on the Sequoia National Forest, 44 occurrence records in NRM-TESP-IS, and 8 vouchers in The Consortium of California Herbaria.

Site visit monitoring for the Sequoia National Forest indicates a stable trend for the species. Locations and monitoring years include: Piute Mountains, F. Linton, 2004, 2005, 2006, 2007, 2012; Black Mountain, F. Linton, 2010; Slate Mountain, F. Linton, 2005, 2008, 2009, 2012, and 2015.

There is insufficient information on which to base a substantial concern about the species' capability to persist over the long term in the plan area because monitoring indicates a stable trend for the species. The best available science does not support a substantial concern about the species' capability to persist over the long term in the plan area.

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Draba cana - cane scent draba

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Mining and roads in area cited for one occurrence off plan area; no threats in plan area

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S2

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: None

The Consortium of California Herbaria database shows no vouchers listed from the Sequoia National Forest. There are no occurrences in the NRM-TESP-IS database for the Sequoia National Forest. CNDDB lists no occurrences from the Sequoia National Forest. There are no known occurrences of this species on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Draba cruciata - Mineral King draba[2]

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Trail maintenance; hiking; extreme rarity

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Draba cruciata (Mineral King draba) occurs from 2400-3400 m in elevation; on gravelly slopes or rocky slopes, ridges, crevices, cliff ledges, sink holes, and the edges of small drainages in upper montane and subalpine forests (Baxter 2016 and others). It blooms July-August. Slopes may be gentle to steep, and aspect may be west to northeast or variable. The soil is usually dry or moist, loamy with humus, clay, sandy, gravelly, or stony, and may be derived from granite, metamorphic, or marble. The surrounding vegetation is often red fir forest, white pine forest, lodgepole pine forest, subalpine coniferous forest, or a combination.

Draba cruciata is mostly found in the Mineral King area of Sequoia National Park in Tulare County, California, as documented by CNDDB and Consortium of California Herbaria records. There are Consortium of California Herbaria specimens of *D. cruciata* on Jordan Peak (*D. cruciata*, Shevock 9901, 7/15/1982; ridge N of Jordan Peak ; Jordan Peak, J. R. Shevock & B. J. Ertter, 1988; Jordan Peak, Joan Stewart, 2001) in Giant Sequoia National Monument and a specimen in each of Mono and El Dorado Counties.

There are no known occurrences of *D. cruciata* on the Sequoia NF plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

[2] Note that *D. cruciata var. integrifolia* has been reclassified taxonomically by Baxter et al. (2016) as *D. sharsmithii*.

References

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Dudleya cymosa ssp. costatifolia - Pierpoint Springs dudleya

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Fuels projects and treatments; fire regime alteration and fire suppression activity; limestone mining; horticultural collecting

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T1

State Rank: S1

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Dudleya cymosa ssp. *costatifolia* (Pierpoint Springs dudleya) is limited to three known locations of the Sequoia National Park and Giant Sequoia National Monument. It grows on limestone colluvium soil

below outcrops, 1450-1600 m elevation, and blooms May-June. Ecosystem types associated with this species include rock outcrops, chaparral-live oak, and carbonate. The 2 CNDDB occurrences are from the Sequoia National Park area.

There are no known occurrences of *D. cymosa* ssp. *costatifolia* on the Sequoia NF plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Erigeron inornatus var. keilii - western rayless fleabane

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Very few populations, but need to be visited

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations:

Erigeron inornatus var. keilii occurs in lower montane coniferous forest, in meadows and seeps. There are no records in the NRM-TESP-IS database for the Sequoia National Forest plan area. The Consortium of California Herbaria database shows three vouchers from the 1950s listed from the Sequoia National Forest at Balch Park, which is in Giant Sequoia National Monument. CNDDB lists one 1940 occurrence in Kings River Canyon, at the junction of the Middle and South Fork.

There are no known occurrences of this species on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Eriogonum breedlovei var. shevockii - The Needles buckwheat

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreational climbing foot traffic; unauthorized OHV travel

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3T3

State Rank: S3

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: None

Eriogonum breedlovei var. *shevockii* is endemic to California, and is considered shade tolerant and low-water tolerant (CALFLORA). Ecosystem types associated with this species include upper montane coniferous forest and pinyon-juniper woodland. Previously ranked a CRPR 1B; it is more common than originally known and now ranked 4.3. Extensive habitat exists. It occurs in many inaccessible sites or places that are very difficult to access (CNPS 2018).

CNDDB lists 11 occurrences from the Sequoia National Forest, but this would have been before CRPR rank changed, since it does not track species ranked 4.3. The Consortium of California Herbaria database shows 15 vouchers listed from the Sequoia National Forest. There is insufficient scientific information to support a substantial concern about the species' capability to persist over the long term in the plan area.

References

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Eriogonum nudum var. regirivum - King's River buckwheat

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Sensitive to erosion and landslides.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Eriogonum nudum var. *regirivum* grows on gravel in rock outcrops of chaparral-live oak woodlands in the southern Sierra Nevada Foothills at 200-600 meters elevation. It blooms August-November. The California Natural Diversity Database (CNDDB) contains 5 recorded occurrences for *Eriogonum nudum* var. *regirivum*. One specimen is listed as occurring on the Sequoia National forest but is located in Giant Sequoia National Monument, growing on steep limestone slopes. Inaccesibility protects the population from recreation activities, although it may be sensitive to slope failure.

There are no known occurrences of *Eriogonum nudum* var. *regirivum* on the Sequoia NF plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Eriogonum polypodum - Tulare County buckwheat

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Grazing; packstock

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: None

Many Consortium records

Eriogonum polypodum occurs in subalpine confer forests, growing in granitic substrate. The Consortium of California Herbaria database shows 9 vouchers explicitly listed from the Sequoia National Forest. There are no records in NRM-TESP-IS for the Sequoia National Forest.

There is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. This species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Eriogonum twisselmannii - Twisselmann's buckwheat

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Vegetation management; fuels treatments/projects; fire; fire suppression; recreation; trail work

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: Rare

Other Designations: R5 RF Sensitive; CA-SGCN

Eriogonum twisselmannii (Twisselmann's buckwheat) occurs in upper montane habitat where it grows on rocks in vicinity of the Needles and Slate Mountains in Tulare County. All 13 CNDDB occurrences are listed as occurring on the Sequoia National Forest, however, all occurrences are located in Giant Sequoia National Monument.

There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Erythranthe discolor (*Mimulus discolor*) *Mimulus montioides*- Two-colored monkeyflower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Off-highway vehicle use, road maintenance, and campgrounds have been observed as possible sources of disturbance at known occurrences.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3?

State Rank: None, too common

CA Rare Plant Rank: SNR

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Erythranthe discolor is not recognized as a unique taxon but included with *E. montioides* in Thompson (2012), this despite a recent description (Fraga 2012). *Erythranthe montioides* is found in western North America, occurs in wet openings in lower mixed conifer/oak forest, vernally moist depressions, swales, meadows, and creek edges, and blooms April-June. Off-highway vehicle use, road maintenance, and campgrounds have been observed as possible sources of disturbance at known occurrences. Development has likely affected populations at lower elevations; several occurrences may have been extirpated on private land in the vicinity of Kernville.

There is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. This species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

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Erythranthe gracilipes (Mimulus gracilipes) - slender-stalked monkeyflower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Residential development on private land; competition from noxious weeds such as yellow starthistle and non-natives grasses (even more so after a fire); road maintenance and construction; improperly timed fuels (sensitive to fuels management) or timber treatments; lack of fire, since this *Erythranthe* appears to behave as a "fire follower" (fire annual) and unauthorized OHV travel. Invasive non-native grasses appear to becoming more prevalent in *Erythranthe gracilipes* habitat, particularly after a fire.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Erythranthe gracilipes grows in open sandy and gravelly flats associated with granitic outcrops in chaparral, foothill woodland, and lower mixed conifer forest, as well as burned areas in these same vegetation types. Size of populations varies dramatically in relation to disturbance and rainfall. In good rain years populations can consists of many thousands of robust, large-flowered plants. *E. gracilipes* responds to wildfire by producing masses of plants, often larger than normal and with more and showier flowers

Erythranthe gracilipes is known from Mariposa, Madera, and Fresno Counties. It is confirmed in the Sierra National Forest and Yosemite National Park and in several locations downslope and off the Sierra and Sequoia National Forests, in the vicinity of Bootjack and Ahwahnee. There is an occurrence near Dunlap close to the Fresno/Tulare county line near the Sequoia National Forest. Elevation ranges from 1500 to at least 4500 feet.

There are no known occurrences on the Sequoia National Forest (Linton, F. pers. comm. 2017). This species has a population 0.5 miles from the Hume Lake Ranger District of the Sequoia National Forest, at similar elevations and habitats as found on the Sequoia National Forest. None of the 13 California Natural Diversity Database (CNDDB) occurrences for *Erythranthe gracilipes* are from the Sequoia NF; no occurrence records in NRM-TESP-IS; and no records in the Consortium for California Herbaria. Based

upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Erythranthe norrisii (Mimulus norrisii) - Kaweah monkeyflower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Extreme rarity; invasives

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Erythranthe norrisii grows occurs in blue oak interior, live oak woodland and chaparral-live oak ecosystems; found in limestone and marble crevices at 600-1300 meters elevation in the southern Sierra Nevada foothills. *Erythranthe norrisii* is not known to occur on the Sequoia National Forest (Linton, F. pers. comm. 2017). This species has a population 2 miles from the Western Divide Ranger District of the Sequoia National Forest with similar habitats on the Sequoia National Forest. None of the 8 California Natural Diversity Database (CNDDB) occurrences for *Erythranthe norrisii* are from the Sequoia National Forest; no occurrence records in NRM-TESP-IS; and no records in the Consortium for California Herbaria.

Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Erythranthe shevockii (*Mimulus shevockii*) - Kelso Creek monkeyflower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? Yes

Proposed Species of Conservation Concern

Yes

Relevant Threats to Species

Rarity; ground disturbance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Ecosystem types associated with *Erythranthe shevockii* include pinyon-juniper, xeric shrub and blackbrush. There is a historic record on the Sequoia National Forest, and extant populations outside the forest boundary. Note in botany report (Slaton, 2016) states "Historic record on SQF needs to be relocated." None of the 11 CNDDB occurrences are on the Sequoia National Forest. None of the seven occurrences documented in NRM-TESP are within the boundary for the Sequoia National Forest. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Erythronium pusaterii - Hocket Lakes fawn lily, Kaweah Lakes fawnlily

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Rarity (few populations); climate change

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Erythronium pusaterii, the Kaweah Lakes fawn lily, is endemic and known from approximately 10 sites in Tulare County, CA. It occurs in subalpine forest, where it grows in montane meadows and on rocky ledges, 2100-2775 m elevation. Ecosystem types associated with this species include montane and meadows.

Seven of the 8 CNDDB occurrences for *E. pusaterii* are reported as located on the Sequoia National Forest, however, these are in Giant Sequoia National Monument and not the Sequoia National Forest plan area. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Fritillaria striata - striped adobe-lily

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Invasive plants; grazing; fire suppression activities; unauthorized OHV travel; road maintenance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2?

State Rank: S2?

CA Rare Plant Rank: 1B.1

CA State Status: Threatened;

Other Designations: R5 RF Sensitive; CA BLM Sensitive; CA-SGCN

Fritillaria striata (striped adobe-lily) is associated with adobe soil and blue-oak interior live oak woodland ecosystem types; it grows in adobe soil, under 1000 m elevation in the southern Sierra Nevada foothills. Consortium of California Herbaria specimens from the 1930s, including from Shirley Meadows and along Highway 178 have not been relocated. There are no occurrences documented in NRM-TESP-IS for the Sequoia National Forest. There are several CNDDB occurrences outside of the Sequoia National Forest plan area; a CNDDB record from 2010 located along Rancheria Road is approximately one mile west of the forest plan area boundary. This species is threatened by agriculture, urbanization, and non-native plants, and possibly threatened by unauthorized vehicle travel and road maintenance. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Galium angustifolium ssp. onycense - Onyx Peak bedstraw

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Potential grazing

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: California BLM Sensitive

Galium angustifolium ssp. *onycense* occurs in montane and pinyon and juniper woodlands. It is known from the Onyx Peak area. There are two Consortium of California Herbaria specimens from within the Sequoia National Forest plan area, including one from 1966 located on rim of plateau just east of Fay Creek Canyon. There is also a 2014 occurrence from a bouldery wash, intermittent stream located in the Kiavah Wilderness, about 0.22 (air) miles SW of McIvers Cabin. There are no records in NRM-TESP-IS for the Sequoia National Forest. CNNDB includes the 1966 Consortium of California Herbaria record. Threats have not been identified in the plan area. There is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. This species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Glyceria grandis - American manna grass

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Grazing; hydrologic alteration

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S3

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: None

Glyceria grandis occurs in meadows, bogs and fens. There is a 1900 Consortium of California Herbaria voucher from the Sequoia National Forest plan area, listed as on Pine Ridge. It is unknown if attempts were made to relocate this occurrence. This record is also found in the CNDDB occurrence for the Sequoia National Forest plan area with no threats identified. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Greeneocharis circumscissa var. *rosulata (Cryptantha circumscissa* var. *rosulata*) - rosette cushion cryptantha

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Grazing, recreation

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Greeneocharis circumscissa var. *rosulata* (rosette cushion cryptantha) occurs on gravel barrens of granitic origin and is known to inhabit alpine to subalpine environments in coniferous forests and boulder and rock fields, and sandy banks near meadows and streams, 2950-3650 m elevation. *Greeneocharis circumscissa* var. *rosulata* is not known to occur on the Sequoia National Forest (Linton, F. pers. comm. 2017). Nearest populations to the Sequoia National Forest are 3.5 miles from the Western Divide Ranger District and 5 miles from the Kern River Ranger District. None of the 8 CNDDB records are reported for the Sequoia National Forest; no records in the NRM-TESP-IS database; and no records in the California Consortium of Herbaria. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Hulsea vestita ssp. *pygmaea* - pygmy hulsea

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Potentially threatened by recreational activities, trampling

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T1

State Rank: S1

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Hulsea vestita ssp. *pygmaea* grows in subalpine forest and alpine barrens, boulder and rock fields, and open gravel and talus slopes, from 3200-3900 m elevation, and is known only from Inyo, San Bernardino and Tulare Counties in California. It blooms June-October. Natureserve (2016) reports the Tulare population as possibly extirpated. CNDDB lists one **1897** occurrence from the Sequoia National Forest that is matched with a Consortium of California Herbarium specimen. This occurrence is located at the headwaters of the Kern River, representing a likely location for the Purpus 5196. CNDDB (2016) reports the "collection presumed to be from the headwaters of the Little Kern River per B. Ertter, in "On the Trail, with Purpus, in California," University and Jepson Herbaria Website. Herbarium specimens from the Sequoia National Forest that are listed in the Consortium for San Bernardino Co. (Baxter et al., 2016) include: Purpus 5196, 9/1/1897, Little Kern, Tulare Co.; and Twisselmann 15763, 7/30/1969, East Sirretta Pass, Kern Plateau, Tulare Co. CNPS (2016) reports recreational activities as a potential threat across the species' distribution.

Hulsea vestita ssp. *pygmaea* is categorized as a species for which insufficient information exists about status and trend. There is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. Based upon the

evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Iris munzii - Munz's iris

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Roads and road maintenance; grazing; recreation; recreational development; fire suppression activities

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Iris munzii is endemic to the Sierra Nevada foothills of Tulare County, California, mostly in the vicinity of the Tule River. *Iris munzii* grows in wet, grassy sites, in open or partial shade, 540-800 m elevation and blooms in April. Ecosystem types associated with this species include blue-oak interior live oak woodland and chaparral-live oak. Three of the 6 CNDDB occurrences are from Giant Sequoia National Monument.

There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Leptosiphon serrulatus - Madera leptosiphon

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Invasives; road maintenance; livestock overuse

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Leptosiphon serrulatus (syn. *Linanthus serrulatus*) is a rare species of phlox known by the common name Madera leptosiphon. It is endemic to California, in chaparral and woodlands in the Sierra Nevada

foothills, from Madera to Kern Counties. Found on dry slopes in cismontane woodland and lower montane coniferous forest or chaparral, mostly in decomposed granite soils, with at least one found in serpentine soils. Sites vary from well-vegetated areas in blue oak woodland to more open, rocky sites. Although most occurrences are documented from blue oak woodland at lower elevations of 300-130 meters (below 3500 feet) elevation, at least 2 occurrences are known from mixed conifer forest above 5,000 feet where winter snow remains for several months.

Leptosiphon serrulatus is historically documented from approximately 30 occurrences, a few of which have been seen in the last several decades. Most are historic and need current fieldwork. At least 5 occurrences are documented in Mariposa County, in the vicinity of Mariposa outside the Sierra National Forest. The dates for these specimens range from 1890 – 1957 (CCH 2016, CNDDB 2016). Field work is needed to confirm the presence of these occurrences. About 5 occurrences are documented in Madera County by Consortium of California Herbaria; date of collection ranges from 1889-1932. Herbarium specimens at the California State University, Fresno (FSC) not yet in CCH include a Madera County specimen made by Quibell in 1930 (FSC 1888) south of Fish Camp, along the "Fresno-Madera-Wawona Road" near Sugar Pine. A 1935 collection (UC 623394) from the San Joaquin Experimental Range, if extant, would occur on lands managed by US Forest Service Pacific Southwest Research Station and CSU Fresno.

At least 10 occurrences are found in Fresno County (CCH 2016). One occurrence at Millerton Lake in Fresno County (CNDDB Element Occurrence No. 9) was extant within the last few years (pers. comm. Christopher Winchell). Chris Winchell discovered an occurrence of *Leptosiphon serrulatus* on Cripe Road (south of Peterson Road) near Tollhouse in 2005 (EO 24, CNDDB, 2016). He noted about 100 plants and rated the site as in "good" condition. Winchell also discovered a population of about 400 plants along Forest Road 8S05 ("Million Dollar Mile"), primarily managed by Southern California Edison Co. This site was also deemed in "good" condition (EO 25, CNDB, 2016). Forest Service botanists looked specifically for plants in the area described in EO 12, along Trimmer Springs Road, and have been unable to relocate it to date. Other than the recent occurrences found by Chris Winchell, all Fresno County collections are from 1923-1960. Dana York collected a specimen in 1997 and the occurrence appears to correspond with CNDDB EO No. 11 (JEPS119148), in the vicinity of Haslett Basin (Sierra NF). He didn't state number of plants, but wrote that they occurred in a "clump" along Forest Road 10S69 (York 1999, CCH 2016).

Of 27 recorded occurrences for *Leptosiphon serrulatus*, 6 of them are labeled as occurring on the Sequoia National Forest. Five records are within the boundaries of Giant Sequoia National Monument and one within the Sequoia NF plan area. They were all revisited 5 years ago and were not re-located (Linton 2017). One historic occurrence in the plan area is from 1923 and located along Kings River and has not been relocated. There is insufficient information to conclude there is a substantial threat to persistence in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Lewisia congdonii - Congdon's lewisia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Mining; mine site rehabilitation; road maintenance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: Rare

Other Designations: R5 RF Sensitive; CA SGCN

Lewisia congdonii is restricted to six occurrences in Merced and Kings river drainages with some Sierra NF sites occuring next to roads and mines. *Lewisia congdonii* grows on granitic or metamorphic outcrops, crevices and rock slides in chaparral-live oak and montane and ecosystems; found at 500-2800 meters elevation in the central Sierra Nevada; blooms April to June.

The California Natural Diversity Database (CNDDB) contains 10 recorded occurrences for *Lewisia congdonii* with three reported to be from the Sequoia NF, however, they are all located in Giant Sequoia National Monument. There are no known occurrences for this species in the Sequoia National Forest plan

area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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Lupinus lepidus var. culbertsonii - Hockett Meadow lupine

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

None known.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Lupinus lepidus var. *culbertsonii* grows on rocky slopes, 2500-3000 m elevation (Baldwin et al., 2012), and in meadows and seeps in upper montane coniferous forest (mesic, rocky) (CNPS, 2016) within the

southern High Sierra Nevada. It is found in Fresno, Inyo, Mono, Tulare, and Tuolumne Counties; reported in a narrow region along the Kaweah River in Tulare Co. and near Farewell Gap (Scholars 2010). Although specimens from the Consortium California Herbaria include notes with location reported on the Sequoia National Forest at Farewell Gap, including Ferris and Lorraine 10695, 7/20/1942, N face of Farewell Gap; Rice 369, 7/18/1966, Farewell Gap; Rice et al. 151, 6/28/1966, Upper Franklin Lake; Rice 494, 8/5/1966, Empire Mt. and Timber Gap (Baxter et al., 2016); these locations are mislabeled and although somewhat near forest plan area boundary, they are actually located within the boundary of Sequoia-Kings Canyon NP (CNDDB 2018). There are no occurrences listed in NRM-TESP-IS for the Sequoia National Forest.

Lupinus lepidus varieties are a complicated group to identify. The many individual collections seem somewhat random, with few specimens annotated, and none by Teresa Sholars, who wrote the key for the species (Howald 2014). Natureserve (2016) reports that little is known about threats or trends.

No collections could be verified to be this species, and no occurrences have been relocated in over 30 years. There is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

Baxter, D, S Markos, NR Morin, RL Moe, E Dean, M Nazaire. 2016. Consortium of California Herbaria. Available at: http://ucjeps.berkeley.edu/consortium/[Accessed 11 Apr 2016].

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Mielichhoferia elongata - elongate copper moss

Type of plant: moss

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

No threats to this species on the Sequoia NF are known at this time. Many populations are roadside and could be impacted from road realignment or highway expansion projects. Mining could have impacts to this species, given its affinity for substrate rocks high in heavy metals.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S4

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: R5 RF Sensitive

Mielichhoferia elongata grows on metamorphic, sedimentary, limestone, granite and serpentine rock outcrops that often contain copper or other heavy metals and that are seasonally moist or less commonly on moist soil. Occurrences are generally small and isolated. Habitat is usually in foothill woodland habitats dominated by oaks or chaparral and sometimes with scattered incense cedar, Douglas-fir, and ponderosa pine. The species grows from sea level to 3550 feet.

Mielichhoferia elongata is known from the North America, Europe and Asia. In North America, it is known from Ontario, Canada and Maine west to California and Northwest Territories. In California, it is known from 3 disjunct portions of the state: the Sierra Nevada Mountains in Mariposa, Placer, Fresno, Tulare counties; the Siskiyou Mountains in Siskiyou, Humboldt, Trinity counties; and the central coast in Santa Cruz County. Previously California rare plant rank of 2B.2; more common than originally known. Potentially threatened in Plumas County by road maintenance.

Out of the 41 herbarium specimens in California, 14 are from National Forest lands, with 3 on the Sequoia National Forest in the Kings River Gorge in Fresno County. Herbarium specimens include Windy Gulch, J. R. Shevock, 1995; Boyden Cave, J. R. Shevock, 1996; Camp 4 – Kings River, J. R. Shevock, 1996; Secate Ridge, J. R. Shevock, 1996; Big Creek, J. R. Shevock, 1996. This species previously had a California rare plant rank of 2B.2, which was changed to a 4.3 because it is more common than originally known. There are no occurrences in CNDDB, since it does not track species with a rare plant rank of 4.3, and there are no NRM-TESP-IS records for the Sequoia National Forest. No threats are known on the forest. Based upon the evidence and supporting best available science, there is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. This species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Monardella beneolens - sweet-smelling monardella

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreation; grazing; high rarity

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive

Monardella beneolens (sweet-smelling monardella) is found on metamorphic or granitic scree slopes, in subalpine mixed conifer forest; grows in clumped prostrate mats, growing up and over boulders, and blooms April-September. Ecosystem types associated with this species include subalpine and mixed conifer. No documented CNDDB occurrences are from the Sequoia National Forest. Although two NRM-TESP occurrences are labeled as being from the Sequoia National Forest, the locations are not within or even close to the boundary of the Sequoia NF. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Monardella linoides ssp. *oblonga* – Tehachapi or Flax-like monardella

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreational trampling, trail construction, road construction and maintenance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Monardella linoides ssp. *oblonga* occurs in pinyon/juniper, montane and upper montane forests from the Los Padres National Forest through the Tehachapi Mountains and into the Sequoia National Forest. It is possibly indistinct from ssp. linoides. The California Natural Diversity Database contains records for ten occurrences of *Monardella linoides* ssp. *oblonga,* all on National Forest System lands. Nine of the occurrences are found on the Los Padres National Forest, and more potential habitat exists that has yet to be surveyed. The tenth occurrence is found on the Sequoia National Forest. The Sequoia National Forest occurrence is east of Tobias Peak in the Kern River Canyon, and needs the location corrected. On the Los Padres National Forest, *Monardella linoides* ssp. *oblonga* is found in the western Transverse Range in a polygon delimited by the following: Cerro Noroeste in the northwest, Frazier Mountain in the northeast, Alamo Mountain in the southeast, and San Guillermo Mountain in the southwest. Consortium of California Herbaria specimens include from the Kern Plateau, Scodie Mountains, and Piute Mountains.

Herbarium specimens include Long Canyon, J. R Shevock, 1984; Danner Meadow, J. R. Shevock, 1982; Lookout Point, Ernest C. Twisselmann, 1962.

Inventories have expanded the range of this taxon and documented a positive response following wildfire events. *Monardella linoides* ssp. *oblonga* is found on road cuts, in campgrounds, adjacent to off-highway vehicle trails, adjacent to hiking trails, and in areas subject to fuels management. Some occurrences are vulnerable to road/trail maintenance and off-road vehicle activity. Where plants are found in road cuts, 'source' populations are present above the road cut in most instances. Plants found adjacent to off-highway vehicle and hiking trails do not appear to be adversely affected by this land use, although where plants are present on both sides of a trail it is obvious that plants were lost during trail construction. Some plants have also been noted to be impacted by mountain bike use of hiking trails where bicyclists have gone off trail. Based upon the evidence and supporting best available science, there is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. This species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Navarretia setiloba - Piute Mountains navarretia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreation; development

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G2

State Rank: S2

CA Rare Plant Rank: 1B.1

CA State Status: None

Other Designations: R5 RF Sensitive; California BLM Sensitive; CA SGCN

Navarretia setiloba (Piute Mountains navarretia) grows in depressions in clay or gravelly loam, 500-2100 m elevation, in the southern Sierra Nevada foothills and blooms April-July. Ecosystem types associated with this species include pinyon-juniper, blue-oak interior live oak woodland, and foothill grassland. Threatened by residential development and vehicles.

Many historical occurrences have been searched without success (CNPS 2018). None of the 22 CNDDB occurrences are on the Sequoia National Forest. The closest is near Bodfish, off of Hoebeck Street, approximately one-quarter mile from the forest boundary. Two occurrences are documented in NRM-TESP-IS but appear to be from the same 1980s Consortium of California Herbaria specimen records as used in CNDDB, and are also not located in the plan area. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [Accessed 23 March 2018]

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Oreonana clementis - pygmy mountainparsley

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Recreation trampling

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3?

State Rank: SNR

CA Rare Plant Rank: CBR

CA State Status: None

Other Designations: None

Oreonana clementis occurs in subalpine forest and alpine fell-fields. CNPS (2018) lists *Oreonana clementis* as too common for consideration of a rare plant rank; where it was considered but rejected (CBR). The Consortium of California Herbaria database shows 15 vouchers listed from the Sequoia National Forest. There is no substantial concern about the species' capability to persist over the long term. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Native Plant Society (CNPS), Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.38). Website http://www.rareplants.cnps.org [Accessed 18 March 2018].

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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Peltigera gowardii - western waterfan lichen

Type of plant: lichen

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Climate change; erosion; water pollution; hydrologic alteration; recreation; vegetation management; fuels treatments; human disturbance; roads/vehicles

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3G4

State Rank: S3

CA Rare Plant Rank: 4.2

CA State Status: None

Other Designations: R5 RF Sensitive

Peltigera gowardii occurs in riparian forests; it grows on rocks in cold water creeks in upper montane to alpine environments. It is found above approx. 1200 m elevation, in drainages with little or no sediment or disturbance. Western waterfan is only found in western North America, occurring from the southern Sierras Nevada of California to Alaska. This species is more common in the northern portion of its range and reaches compared to the edge of its southern range located within the Giant Sequoia National Monument.

In California, it is found in nine counties in the Sierra Nevada and from the Mt. Dana area in Mono County. Although the species is documented on the Giant Sequoia National Monument, per site visits and monitoring on Slate Mountain by J. R. Shevock in 1980, and Sugarpine Hill (CNDDB 2008), there are no records for the species in the Sequoia NF plan area.

It is apparently intolerant of water pollution. For subalpine snowmelt-fed streams that support the *P. gowardii*, widespread conversion of permanent watercourse to ephemeral streams is anticipated as a result of climate change. In addition, hydrological alteration due to the presence of mountain roads can concentrate water flow and divert natural water drainage systems. At higher elevations, recreation can threaten *P. gowardii* habitat by changing water flows and increasing sediment loads. Natureserve identifies climate change as a threat to this species; as trees move upward, habitat for this species may become unfavorably shaded.

There are no records for *Peltigera gowardii* in the plan area. There is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

California Dept. of Fish & Wildlife. 2017. Special vascular plants, bryophytes, and lichens list, April 2017. Available at https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline/ [Accessed 10 April 2017].

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Consortium of North American Lichen Herbaria. 2017. Data provided by the participants of the Consortium of North American Lichen Herbaria. Website http://lichenportal.org/portal/collections/index.php. [Accessed 24 November 2017].

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Petrophyton acuminatum (Petrophytum caespitosum ssp. acuminatum) - marble rockmat

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Invasive species

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5T2

State Rank: S2

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: R5 RF Sensitive

Ecosystem types associated with this species include rock outcrops, carbonate, and montane. *Petrophyton caespitosum* ssp. *acuminatum* (marble rockmat) grows on limestone cliffs, in carbonate and rocky areas, and in lower and upper montane coniferous forests at 900-2350 m elevation, and blooms June-September. The taxonomy of this species is under study.

There is one CNDDB occurrence in Giant Sequoia National Monument. There are no occurrences on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Dept. of Fish & Wildlife. 2015. California State Wildlife Action Plan. A Conservation Legacy for California, 2015 Update. Volume II, Table C-7. Available at https://www.wildlife.ca.gov/SWAP/Final. September 2015.

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Potamogeton robbinsii - Robbin's pondweed

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

None listed

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S3

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: None

There are no occurrences documented by CNDDB or in the NRM-TESP-IS database for the Sequoia National Forest. The Consortium of California Herbaria database shows no vouchers explicitly listed from the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Ribes menziesii var. ixoderme - aromatic canyon gooseberry

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Fire suppression activities (e.g. dozer line construction); off highway vehicle traffic; competition from non-native invasive weeds such as Italian thistle and tocalote; grazing.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4T2

State Rank: S2

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: None

Ribes menziesii var. *ixoderme* occurs in foothill chaparral and oak woodland in the southern Sierra Nevada < 1000 m.; it ranges from foothills of the Kings River drainage on the Sierra NF in Fresno County southward through Tulare and Kern counties. None of the Tulare or Kern county sites appear to be on National Forest System lands, though they're near the Sequoia and Los Padres NFs.

There are approximately 9 Consortium occurrences from Fresno, Tulare, and Kern Counties. For the Sierra National Forest, at least 3 occurrences exist on the U.S. Geological Survey Trimmer and Sacate Ridge quads. The 1980 information from Dan Hamon in Rarefind (CDFW, 2016) stating that plants were seen from Haslett Basin to Bob's Flat takes in a large area spanning about 6 miles from east to west. The area from Haslett Basin to Bob's Flat encompasses the "north base of Cat's Head Mountain" along Road 10S04 represented by a May 12, 1977 collection by Rubtzoff (RSA800269).

There are no records of the species for the Sequoia NF plan area. There are no occurrences documented in the NRM-TESP-IS database for the Sequoia National Forest. The Consortium of California Herbaria database shows no vouchers explicitly listed from the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Ribes tularense - Sequoia gooseberry

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Rarity; ground disturbance

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations: California BLM Sensitive

Ecosystem types associated with *Ribes tularense* include upper montane. There are no CNDDB occurrences on the Sequoia National Forest. There are no records in the NRM-TESP-IS database from the Sequoia National Forest. The Consortium of California Herbaria database shows a voucher of unknown location from 1908 with notes on the Sequoia National Forest, by Anstruther Davidson, specimen ID RSA459491, collection number 1830. There is no way to confirm location is in plan area or monument given the lack of information. There are no known occurrences on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Saltugilia latimeri - Latimer's woodland-gilia

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Possibly threatened by recreation

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: R5 RF Sensitive

Saltugilia latimeri is found in chaparral, Mojavean desert scrub, and pinyon and juniper woodlands. It is known from fewer than 20 occurrences, none of which are located in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

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Sidotheca caryophylloides (Oxytheca c.) - chickweed oxytheca

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Possibly grazing. No threats in the plan area have been identified.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4

State Rank: S4

CA Rare Plant Rank: 4.3

CA State Status: None

Other Designations: R5 RF Sensitive

Sidotheca caryophylloides (chickweed oxytheca) occurs in lower montane coniferous forest, growing in sand or gravel. It is endemic to California, recorded in the counties of Los Angeles, Riverside, San Bernardino, Tulare and Ventura. In Tulare, it is found1300-2600 m elevation in the southern High Sierra Nevada. There are 5 Consortium of California Herbaria specimen records from the 1970s and early 1980s in Tulare County, on the Kern Plateau, and at least one is in the Domeland Wilderness. There are no occurrences documented in the NRM-TESP-IS database for the Sequoia National Forest or in CNDDB, which does not track species ranked 4.3. There is no information on status and trends, and no identified threats in the plan area. Based upon the evidence and supporting best available science, there is insufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area. This species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

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Sphenopholis obtusata - prairie wedge grass

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Unauthorized OHV travel; foot traffic

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S2

CA Rare Plant Rank: 2B.2

CA State Status: None

Other Designations: None

Sphenopholis obtusata is a species of grass known by the common names prairie wedgescale and prairie wedge grass. It is native to North America where it is widespread across southern Canada and the United States. It occurs in many types of habitat, including prairie, marshes, dunes, and disturbed areas. *Sphenopholis obtusata* occurs in foothill woodland and meadows and seeps. Two of 19 CNDDB occurrences are listed as occuring on the Sequoia National Forest; one is an 1895 record in the area of the Giant Sequoia National Monument and the other is a 1959 record within the forest boundary area but not relocated in 40+ years. There are no occurrences documented in the NRM-TESP-IS database for the Sequoia National Forest and the Consortium of California Herbaria database shows no vouchers explicitly listed from the Sequoia National Forest. There is insufficient information to support a substantial concern regarding the species ability to persist in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Streptanthus gracilis - alpine jewelflower

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

None known

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3

State Rank: S3

CA Rare Plant Rank: 1B.3

CA State Status: None

Other Designations:

None of the 29 CNDDB occurrences are in the Sequoia National Forest plan area. There are no occurrences documented in the NRM-TESP-IS database for the Sequoia National Forest. A single record for SQF from 1970 has not been verified to occur within the administrative boundary. The Consortium of California Herbaria database shows no vouchers explicitly listed from the Sequoia National Forest plan area. Best available science does not support substantial concern regarding the species ability to persist in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Stylocline masonii - Mason's nest straw

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Unauthorized OHV travel; grazing; development; inundation; vehicles; recreational activities

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G1

State Rank: S1

CA Rare Plant Rank: 1B.1

CA State Status: Plant Species of Greatest Conservation Need (State Wildlife Action Plan 2015)

Other Designations: R5 RF Sensitive; California BLM Sensitive

Stylocline masonii is endemic to California, being found in the southern San Joaquin Valley and the southern Sierra Nevada foothills, outer South Coast Ranges, and Western Transverse Ranges of Kern, Los Angeles, Monterey, and San Luis Obispo Counties. *Stylocline masonii* (Mason's neststraw) occurs in Chenopod scrub and pinyon and juniper woodland; is usually found in dry washes, flats, plains, canyon bottoms, or flats along rivers or streams. Areas are generally flat to gently sloped, and open, often barren. Frequently the species may be found near the bases of rocks, in small drainages or depressions, or under the drip-lines of shrubs. The soil is sandy, light, loose, and dry, and may be calcareous. The surrounding vegetation may be chenopod scrub, pinyon-juniper or juniper woodland, or foothill woodland. This species is a very inconspicuous annual and may be in identifiable condition for only 2-4 weeks in wet years. In dry years, it may not even germinate.

There are no known locations of *Stylocline masonii* in the plan area. The species was identified as a sensitive species without known occurrences in the plan area for the Sequoia National Forest; it has been found adjacent to the Sequoia National Forest. Most of the known sites of this species were revisited in 1989 by James Morefield, the species author, but plants were not found, perhaps due to it being a dry year (Morefield 1992). Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

Best Available Scientific

California Natural Diversity Database (CNDDB). 2017. RareFind 5 [Internet]. California Department of Fish and Wildlife. [Accessed 27 November, 2017].

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

Morefield J.D. Three new species of Stylocline (Asteraceae: Inuleae) from California and the Mojave Desert. Madrono Vol.39 No. 2 pp. 114-130. 1992

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Triglochin palustris - marsh arrow-grass

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Potentially recreation trampling, and grazing.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S2

CA Rare Plant Rank: 2B.3

CA State Status: None

Other Designations: None

Triglochin palustris occurs in subalpine coniferous forest meadows and seeps. There are no occurrences documented in the NRM-TESP-IS database for the Sequoia National Forest. The Consortium of California Herbaria database shows 5 vouchers listed from the Sequoia National Forest from the 1940s. CNDDB lists no occurrences from the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Utricularia intermedia - flat-leaved bladderwort

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Insufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Possibly threatened by grazing, trampling, and hydrologic alteration.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G5

State Rank: S3

CA Rare Plant Rank: 2B.2

CA State Status: None

Other Designations: None

Utricularia intermedia is a carnivorous plant that occurs in bogs and fens, meadows and seeps, lake margins, and vernal pools. It is usually found affixed to the substrate but it can also survive suspended in a body of water. *U. intermedia* is a circumboreal species and is found in North America, Asia, and Europe.The Consortium of California Herbaria database shows 3 vouchers listed from the Sequoia National Forest and CNDDB lists 2 of these occurrences as also from the Sequoia National Forest, however, all occurrences are in the Big Meadows area of Giant Sequoia NM, outside of the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Viola pinetorum var. grisea - gray-leaved violet

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

Possibly threatened by overgrazing, trampling, and unauthorized OHV travel

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G4G5T3?

State Rank: S3?

CA Rare Plant Rank: 1B.2

CA State Status: None

Other Designations: None

Viola pinetorum var. grisea occurs in meadows and seeps, subalpine coniferous forest, and upper montane (lodgepole forest, subalpine forest, red fir forest) coniferous forest. It has been observed in Alpine, El Dorado, Fresno, Inyo, Kern, Madera, Mariposa, Mono, Moterey, Placer, San Bernardino, Sierra, Tulare, Tuolumne, and Ventura Counties. It is considered difficult taxonomically. The California Native Plant Society rare plant rank changed from 1B.3 to 1B.2 on 2017-10-06, and alternatively, the Regional Forester removed the species from the 2013 sensitive species list for the Region.

On the Sequoia National Forest, this species is considered somewhat common on Kern Plateau and is also found in the Greenhorn and Piute Mountains. There are 22 CNDDB occurrence records from the Sequoia National Forest plan area and five in the Giant Sequoia National Monument. There are three Consortium of California Herbaria vouchers within the plan area, two from the 1970s, and one from 2007 that is located within Bald Mountain Botanical Area. There is one occurrence documented in the NRM-TESP-IS database for the Sequoia National Forest. Potential threats identified in the databases include grazing, unauthorized OHV travel, and recreation trampling; however, no actual damage was identified in the database records. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2018. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 19 March 2018].

NatureServe. 2017. NatureServe Explorer. Arlington, VA. U.S.A. Available at: http://explorer.natureserve.org/ [Accessed 10 April 2017].

USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Wyethia invenusta - Colville's Mule Ears or rayless mule's ears

Type of plant: flowering plant

Is there sufficient scientific information available to determine if there is substantial concern about the species' capability to persist over the long term in the plan area? Sufficient

Does the best available science indicate substantial concern about the species' capability to persist over the long term in the plan area? No

Proposed Species of Conservation Concern

No

Relevant Threats to Species

None known in the plan area.

Rationale for Species

NatureServe Global and Taxa (subspecies) Rank: G3G4

State Rank: SNR

CA Rare Plant Rank: CBR

CA State Status: None

Other Designations: None

Wyethia invenusta, a dicot, is a perennial herb that is endemic to California, occuring in pine forests in the Serra Nevada foothills, High Sierra Nevada, and Tehachapi Mountain area. There are 16 Consortium of California Herbaria database vouchers listed from the Sequoia National Forest. *Wyethia invenusta* is known to be deer tolerant, as advertised by nurseries. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

References

California Natural Diversity Database (CNDDB). California Department of Fish and Game, Biogeographic Data Branch. 2017. California Natural Diversity Database. Sacramento, CA. Data downloaded November 2017.

Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Website ucjeps.berkeley.edu/consortium. [Accessed 24 November 2017].

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USDA Forest Service. 2017. Natural Resource Manager; Threatened, Endangered, and Sensitive Plants – Invasive Plant (NRM-TESP-IS) Database [Accessed 24 November 2017].

Appendix

Summary of changes to list of botanical species of conservation concern

Table 2. Summary of changes to list of botanical species of conservation concern for the Sierra National Forest.

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
Allium shevockii, Spanish Needle onion	No	G2	None	S2	1B.3	BLM-SS	SCC	Remove: Although there are populations 6 miles northwest and 15 miles south of the Scodie Mountains (i.e., Scodie Mountains are in the plan area), and there are similar elevations and habitats in the plan area, there are no confirmed occurrences on the Sequoia National Forest (Linton 2017). None of the 10 CNDDB occurrences are on the Sequoia National Forest. There are no records in the Consortium of California Herbaria database and no records in the NRM-TESP-IS database from the Sequoia National Forest. *Allium shevockii* is not known to occur on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Boechera shevockii, Shevock's rockcress	No	G1	None	S1	1B.1	FS-SS; CA-SGCN	SCC	Remove: *Boechera shevockii* (Shevock's rockcress) is endemic to California. It occurs in upper montane forest, on rock outcrop ledges, 2500 m elevation. The species is only known from one population, incidated by the one CNDDB record that is located in the Giant Sequoia National Monument. This species is not known to occur on the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Botrychium minganense, mingan moonwort	No	G4G5	None	S3	2B.2	FS-SS	SCC	Remove: Although there is a population of this species 6 miles from the Hume Lake RD, a population 3 miles from the Western Divide RD, and a population 3 miles from the Kern River RD, all at similar elevation and habitats as found in

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
								and in contiguous habitat between these populations and the Sequoia National Forest, the species has not been observed in the plan area (Linton, F. pers. comm. 2017). None of the 57 CNDDB occurrences are on the Sequoia National Forest. There are no records in the NRM-TESP-IS database from the Sequoia National Forest and no records in the Consortium of California Herbaria database. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Botrychium montanum, western goblin or mountain moonwort	No	G3	None	S2	2B.1	FS-SS	SCC	Remove: *Botrychium montanum* is not known to occur on the Sequoia National Forest. The nearest population of this species is 25 miles north of the Sequoia National Forest (Linton, F. pers. comm. 2017). The California Natural Diversity Database (CNDDB) shows no occurrences for the Sequoia NF and there are no records in the NRM-TESP database or the Consortium of California Herbaria. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Brodiaea insignis, Kaweah brodiaea	No	G1	None	S1	1B.2	FS-SS BLM-S	SCC	Remove: *Brodiaea insignis* (Kaweah brodiaea) is endemic to southern Sierra Nevada California, known only from the Tule and Kaweah River drainages. It grows in foothill blue-oak interior live oak woodland and valley and foothill grassland, 200 to 400 m elevation. Four of the 27 CNDDB occurrences are reported for the Sequoia National Forest, however they are all located in Giant Sequoia National Monument plan area. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
Bruchia bolanderi, Bolander's bruchia	No	G1	None	S1	1B.2	FS-SS BLM-S	SCC	Remove: The California Natural Diversity Database (CNDDB) shows 54 recorded occurrences for *Bruchia bolanderi*, with one of these occurrences in Giant Sequoia National Monument. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
California macrophylla, roundleaf stork's bill	No	G3?	None	S3?	1B.2	CA-SGCN; BLM-SS	SCC	Remove: *California macrophylla* is not known to occur on the Sequoia National Forest. This species has a population 0.75 miles from the Kern River RD of the Sequoia National Forest, at similar elevations and habitats as found on the Sequoia National Forest. There are, however, no known occurrences on the Sequoia National Forest (Linton, F. pers. comm. 2017): none of the 162 CNDDB occurrences:162; no records in the NRM-TESP-IS database; and no records in the Consortium of California Herbaria database. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Cinna bolanderi - Bolander's woodreed	No	G2	None	S2	1B.2	FS-SS	SCC	Remove: *Cinna bolanderi* has no known occurrences in the plan area. There are no records in the NRM-TESP-IS database for the Sequoia National Forest. A 1975 Consortium for California Herbaria specimen (by J.R. Shevock, Specimen ID CAS-BOT-BC184842, Collection Number 4720) is from the Giant Sequoia National Monument plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
Draba cruciata, Mineral King draba	No	G3	None	S3	1B.3	FS-SS	SCC	Remove: *Draba cruciata* is mostly found in the Mineral King area of Sequoia National Park in Tulare County, California, as documented by CNDDB and Consortium of California Herbaria records. There are Consortium of California Herbaria specimens of *D. cruciata* on Jordan Peak (*D. cruciata*, Shevock 9901, 7/15/1982; ridge N of Jordan Peak ; Jordan Peak, J. R. Shevock & B. J. Ertter, 1988; Jordan Peak, Joan Stewart, 2001) in Giant Sequoia National Monument and a specimen in each of Mono and El Dorado Counties. There are no known occurrences of *D. cruciata* on the Sequoia NF plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Dudleya cymosa ssp. *costatifolia* - Pierpoint Springs dudleya	No	G5	T1	S1	1B.2	FS-SS	SCC	Remove: There are no known occurrences of *D. cymosa* ssp. *costatifolia* on the Sequoia NF plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Eriogonum nudum var. regirivum, King's River buckwheat	No	G5	T2	S2	1B.2	FS-SS	SCC	Remove: The California Natural Diversity Database (CNDDB) contains 5 recorded occurrences for *Eriogonum nudum* var*. regirivum*. One specimen is listed as occurring on the Sequoia National Forest but is actually located in Giant Sequoia National Monument plan area, growing on steep limestone slopes. Inaccesibility protects the population from recreation activities, although it may be sensitive to slope failure. There are no known occurrences of *Eriogonum nudum* var*. regirivum* on the Sequoia NF plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
Eriogonum twisselmannii - Twisselmann's buckwheat	No	G3	None	S3	1B.2	FS-SS	SCC	Remove: All 13 CNDDB occurrences are listed as occurring on the Sequoia National Forest, however, all occurrences are located in Giant Sequoia National Monument. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Erythranthe gracilipes (Mimulus gracilipes), slender-stalked monkeyflower	No	G2	None	S2	1B.2	FS-SS; BLM-SS	SCC	Remove: There are no known occurrences on the Sequoia National Forest (Linton, F. pers. comm. 2017). This species has a population 0.5 miles from the Hume Lake Ranger District of the Sequoia National Forest, at similar elevations and habitats as found on the Sequoia National Forest. None of the 13 California Natural Diversity Database (CNDDB) occurrences for *Erythranthe gracilipes* are from the Sequoia NF; no occurrence records in NRM-TESP-IS; and no records in the Consortium for California Herbaria. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Erythranthe norrisii (Mimulus norrisii), Kaweah monkeyflower	No	G2	None	S2	1B.3	FS-SS; BLM-SS	SCC	Remove: *Erythranthe norrisii* grows occurs in blue oak interior, live oak woodland and chaparral-live oak ecosystems; found in limestone and marble crevices at 600-1300 meters elevation in the southern Sierra Nevada foothills. *Erythranthe norrisii* is not known to occur on the Sequoia National Forest (Linton, F. pers. comm. 2017). This species has a population 2 miles from the Western Divide Ranger District of the Sequoia National Forest with similar habitats on the Sequoia National Forest. None of the 8 California Natural Diversity Database (CNDDB) occurrences for *Erythranthe norrisii* are from the Sequoia National Forest; no occurrence records in NRM-TESP-IS; and no records in the Consortium for California Herbaria. Based upon the evidence and supporting best available science, this species

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
								does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Erythranthe shevockii (*Mimulus shevockii*) - Kelso Creek monkeyflower	No	G2	S2	1B.2	None	FS-SS; CA BLM-S	SCC	Remove: There is a historic record on the Sequoia National Forest, and extant populations outside the forest boundary. Note in botany report (Slaton, 2016) states "Historic record on SQF needs to be relocated." None of the 11 CNDDB occurrences are on the Sequoia National Forest. None of the seven occurrences documented in NRM-TESP are within the boundary for the Sequoia National Forest. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Erythronium pusaterii, Hocket Lakes fawn lily or Kaweah Lakes fawnlily	No	G3	None	S3	1B.3	FS-SS	SCC	Remove: Seven of the 8 CNDDB occurrences for *E. pusaterii* are reported as located on the Sequoia National Forest, however, these are in Giant Sequoia National Monument and not the Sequoia National Forest plan area. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Fritillaria striata, striped adobe-lily	no	G2?	None	S2?	1B.1	FS-SS; CA BLM-S; CA-SGCN	SCC	Remove: Consortium of California Herbaria specimens from the 1930s, including from Shirley Meadows and along Highway 178 have not been relocated. There are several CNDDB occurrences outside on the Sequoia National Forest plan area; a CNDDB record from 2010 located along Rancheria Road is approximately one mile west of the forest plan area boundary. Threatened by agriculture, urbanization, and non-native plants. Possibly threatened by vehicles and road maintenance. There are no occurrences documented in NRM-TESP-IS for the Sequoia National

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
								Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Greeneocharis circumscissa var. *rosulata* (*Cryptantha circumscissa* var. *rosulata*), rosette cushion cryptantha	No	G5	T2	S2	1B.2	FS-SS	SCC	Remove: *Greeneocharis circumscissa* var. *rosulata* is not known to occur on the Sequoia National Forest (Linton, F. pers. comm. 2017). Nearest populations to the Sequoia National Forest are 3.5 miles from the Western Divide Ranger District and 5 miles from the Kern River Ranger District. None of the 8 CNDDB records are reported for the Sequoia National Forest; no records in the NRM-TESP-IS database; and no records in the California Consortium of Herbaria. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Iris munzii, Munz's iris	No	G2	None	S2	1B.3	FS-SS; CA BLM-S	SCC	Remove: Three of the 6 CNDDB occurrences are from Giant Sequoia National Monument. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Layia heterotricha, pale-yellow layia	No	G2	None	S2	1B.1	FS-SS; CA BLM-S	SCC	Remove: There are no known occurrences for this species in the Sequoia National Forest plan area. There are no CNDDB occurrences on the Sequoia NF. Threatened by agricultural conversion and previous construction of San Antonio Reservoir, grazing, non-native plants, and vehicles. Potentially threatened by road maintenance and wind energy development. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
Leptosiphon serrulatus, Madera leptosiphon	No	G3	None	S3	1B.2	FS-SS	SCC	Remove: Of 27 recorded occurrences for Leptosiphon serrulatus, 6 of them are labeled to the Sequoia National Forest. However, 5 are within the boundaries of Giant Sequoia National Monument and one within the Sequoia NF plan area. They were revisited 5 years ago, but were not re-located (Linton 2017). The one occurrence in the plan area is located along Kings River and has not been relocated since its report in the 1923. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Lewisia congdonii, Congdon's lewisia	No	G2	None	S2	1B.3	CA-Rare FS-SS; CA SGCN	SCC	Remove: The California Natural Diversity Database (CNDDB) contains 10 recorded occurrences for Lewisia congdonii with three reported to be from the Sequoia NF, however, they are located in Giant Sequoia National Monument. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Monardella beneolens, sweet-smelling monardella	No	G2	None	S2	1B.3	FS-SS; CA BLM-S	SCC	Remove: No documented CNDDB occurrences are from the Sequoia National Forest. Although two NRM-TESP occurrences are labeled as being from the Sequoia National Forest, the locations are not within or even close to the boundary of the Sequoia NF. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
Navarretia setiloba, Piute Mountains navarretia	No	G2	None	S2	1B.1	FS-SS; CA BLM-S; CA-SGCN	SCC	Remove: Many historical occurrences have been searched without success (CNPS 2018). None of the 22 CNDDB occurrences are on the Sequoia National Forest. The closest is near Bodfish, off of Hoebeck Street, approximately one-quarter mile from the forest boundary. Two occurrences are documented in NRM-TESP-IS but are the same 1980s Consortium of California Herbaria specimen records as used in CNDDB, and not located in the plan area. There are no known occurrences for this species in the Sequoia National Forest plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Peltigera gowardii - western waterfan lichen	No	G3G4	None	S3	4.2	FS-SS	SCC	Remove: There are no records for *Peltigera gowardii* in the plan area. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Petrophyton acuminatum (Petrophytum caespitosum ssp. acuminatum), marble rockmat	No	G5	T2	S2	1B.3	FS-SS	SCC	Remove: The taxonomy of this species is under study. There is one CNDDB occurrence in Giant Sequoia National Monument. There are no occurrences on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Ribes tularense, Sequoia gooseberry	No	G1	None	S1	1B.3	CA BLM-S	SCC	Remove: The Consortium of California Herbaria database shows a voucher of unknown location from 1908 with notes on the Sequoia National Forest, by Anstruther Davidson, specimen ID RSA459491, collection number 1830. No one has been able to confirm location given the lack of information. There are no occurrences on the Sequoia National Forest. Based upon the evidence and supporting best available science, this species does not meet the

***Scientific Name*, Common Name**	**Native to and Known to Occur in the Plan area**	**Nature Serve Global Rank**	**Nature Serve T Rank**	**State S Rank CA and NV**	**CA Rare Plant Rank**	**Other Ranks**	**June 2016 RF SCC List**	**Summary of Reason for Change for 2019 List**
								established criteria at CFR 1909.12 chp. 10, 12.52 (c-d) as a species of conservation concern in the plan area.
Sidalcea multifida - cut-leaf checkerbloom	Yes	G3	None	S2	2B.3	None	No	Add: Many Consortium of California Herbaria vouchers and CNDDB records are from the Sequoia National Forest, including many from 2011 and 2012. Recreation trampling, particularly by horses off trail. There is substantial concern about the species' capability to persist over the long term in the plan area because of identified threats and low numbers of occurrences.

Sensitive species not included in rationales

Table 3. Sensitive species not included in rationales and reason

Scientific Name	**Native to and Known to Occur in the Plan area**	**NatureServe Global Rank & T Rank**	**NatureServe State Rank CA or NV**	**Calif. Rare Plant Rank from CDFW Special Plants list Apr. 2017**	**FWS-BCC BLM-SS FS-SS State SSC (CA) (NV) or SGCN or other**	**June 2016 RF SCC List**	**2018 Decision Summary Rationale Statement**
Pinus albicaulis	Yes	G3G4	SNR	CBR	Sensitive	No	This is a candidate species for ESA listing with US Fish and Wildlife Service, so is not considered an SCC at this time.